

Service Manual

PIONEER
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PION - 04587

• KEH-M780/US



ORDER NO.
CRT1509

MULTI-CD CONTROL FM/AM TUNER DECK AMPLIFIER

KEH-M780

US

KEH-M8500

US

KEH-M8550

ES

NOTE:

- See the separate manual CX-529 (CRT1507) for the cassette mechanism description.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double -D symbol are trademarks of Dolby Laboratories Licensing Corporation.

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4587

SAFETY INFORMATION (US MODEL)

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

1. SPECIFICATIONS

●KEH-M780/US

General

Power Source.....	14.4 V DC (10.8—15.6 V allowable)
Grounding system	Negative type
Max. current consumption	7 A
Dimensions (chassis).....	178 (W) × 50 (H) × 150 (D) mm [7(W)×2(H)×5-7/8(D)in.]
(front face).....	170 (W) × 46 (H) × 18 (D) mm [6-3/4(W)×1-3/4(H)×3/4(D)in.]
Weight	1.6 kg(3.5lbs.)

Amplifier

Continuous power output is 14 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.

Maximum power output	30 W × 4 (EIAJ)
Load impedance	4Ω (4—8Ω allowable)
Tone controls (bass)	±12 dB (100 Hz)
(middle).....	±12 dB (1 kHz)
(treble)	±12 dB (10 kHz)
Loudness contour	+12 dB (100 Hz), +7 dB (10 kHz) (volume: -30 dB)

Nominal output level/ output impedance (pre out)	500 mV/1kΩ
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Sub-woofer

Crossover frequency.....	50 Hz/80 Hz/120 Hz
Crossover slope	-12 dB/octave
Output gain.....	-21 — +9 dB

Tape player

Tape	Compact cassette tape (C-30—C-90)
Tape speed	4.76cm/sec. (+0.14cm/sec., -0.05cm/sec.)
Fast forward/rewind time.....	Approx. 100 sec. for C-60
Wow & Flutter.....	0.09% (WRMS)
Frequency response	Metal: 30—19,000 Hz (±3 dB)
Stereo separation.....	45 dB
Signal-to-noise ratio	Metal: Dolby C NR IN: 73 dB (IHF-A network) Dolby B NR IN: 67 dB (IHF-A network) Dolby NR OUT: 61 dB (IHF-A network)

FM-Tuner

Frequency range.....	87.9—107.9 MHz
Usable sensitivity.....	8 dBf (0.7 μ V/75 Ω , mono)
50 dB quieting sensitivity.....	13 dBf (1.2 μ V/75 Ω , mono)
Signal-to-noise ratio.....	70 dB (IHF-A network)
Distortion.....	0.3% (at 65dBf, 1kHz, stereo)
Frequency response.....	30—15,000 Hz (\pm 3 dB)
Stereo separation.....	40 dB (at 65 dBf, 1 kHz)
Three-signal intermodulation (desire signal level).....	50 dBf (two undesire signal level: 110 dBf)

AM-Tuner

Frequency range.....	530 — 1,710 kHz
Usable sensitivity.....	18 μ V (25 dB) (S/N: 20 dB)
Selectivity.....	50 dB (\pm 9 kHz)

These specifications were determined and are presented in accordance with specification standards established by the Ad Hoc Committee of Car Stereo Manufacturers.

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

2. USING THE REMOVABLE FRONT PANEL

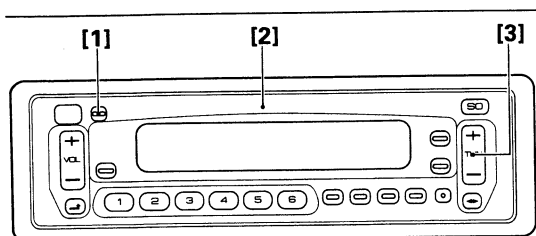


Fig.1

Parts Identification (Fig. 1)

- [1] Open button
- [2] Front panel
- [3] Buzzer ON/OFF

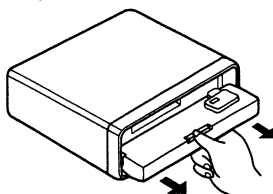
The front panel of this unit can be removed to prevent theft. Also, to prevent forgetting to remove the front panel, 5 seconds after the ignition is turned off, if the front panel is still attached, a buzzer will sound for a few seconds.

If you wish to cancel the sound of the buzzer, please do as follows.

Keep the minus side (–) of button [3] depressed and turn the vehicle's ignition key from OFF to ON. By repeating this procedure, the sound of the buzzer will be restored.

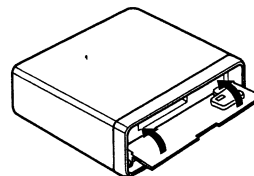
Detaching the Front Panel

1. Press button [1] to open the front panel.
2. While holding down the lock button, pull the front panel toward you.

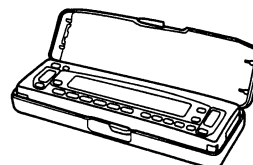


- Take care not to put pressure on the display or drop the front panel.

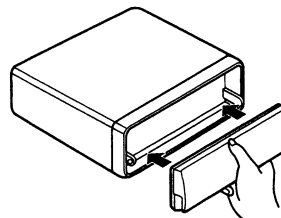
3. Close the inner lid.



- Always keep the inner lid closed while the front panel is out, otherwise dirt or dust may get into from the cassette slot, causing malfunctions.
4. Enclose for safekeeping the front panel that is removed in the supplied protective case.

**Replacing the Front Panel**

1. Make sure the inner lid is closed.
2. Push the front panel into the main body.



- When replacing the front panel, do not put pressure on the display or control buttons.

3. ADJUSTING VOLUME AND TONE

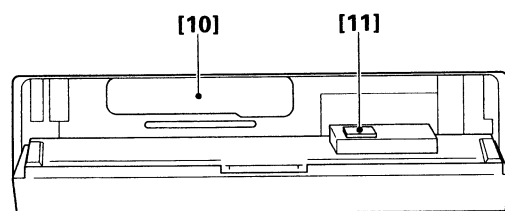
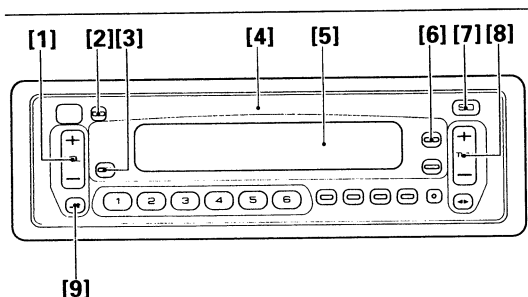


Fig.2

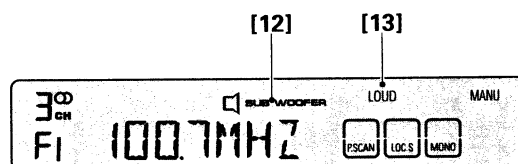


Fig.3

Parts Identification (Fig. 2)

- [1] Volume/Audio adjustment
- [2] Open
- [3] Loudness
- [4] Front panel
- [5] Display
- [6] Illumination switch
- [7] Source selector
- [8] Frequency selector
- [9] Shift
- [10] Cassette slot
- [11] Eject

(Fig. 3)

- [12] Sub-woofer
- [13] Loudness

Switching Power On Tuner

Press button [7] to switch the tuner power on. Press button [7] again to switch the power off.

Tape

Press button [2] to open the front panel, and load a cassette in through cassette slot [10]. The cassette will play. To eject the cassette, press button [2] to open the front panel and press button [11].

Source Selector

When a cassette is loaded and button [7] is pressed, the source shifts in the order tape → tuner → power off. If this unit is combined with a multi-play CD player sold separately such as CDX-M33, the source shifts in the order multi-play CD player → tape → tuner → power off.

Note:

- None of the operation buttons except button [11] work while the front panel is open. Use the control buttons after shutting the front panel.

Adjusting Audio

Press button [1] to adjust the volume. Each press of button [9] changes the display and the function of button [1] as follows:

Volume → Fader 1 → Fader 2 → Bass → Middle → Treble → Balance

Adjusting Volume

Pressing the (+) side of button [1] increases the volume, while the (-) side decreases it.

(Display shows "VOL00" — "VOL30".)

- While driving, keep the volume low enough that you can hear sounds from outside the vehicle.

Adjusting the Fader

This unit has two faders. Fader 1 (displayed as "FAD 1") adjusts this unit's built-in amp's front and rear output.

Fader 2 (displayed as "FAD 2") adjusts the built-in amp's overall output as well as front pre-out and rear pre-out output.

- When combining this unit with a graphic equalizer, the fader adjustment is carried out on the graphic equalizer. For details on how to adjust Fader 1 and Fader 2 in this situation, see "Combining this unit with a graphic equalizer" in the next item.
- When the sub-woofer function is used, the Fader 2 function does not work. (See "Using the Sub-woofer" on the next item.)
- For details on Speakers [1] — [5] as mentioned in the explanation of Fader 1 and Fader 2, see the wiring diagram on the next item.

Fader 1

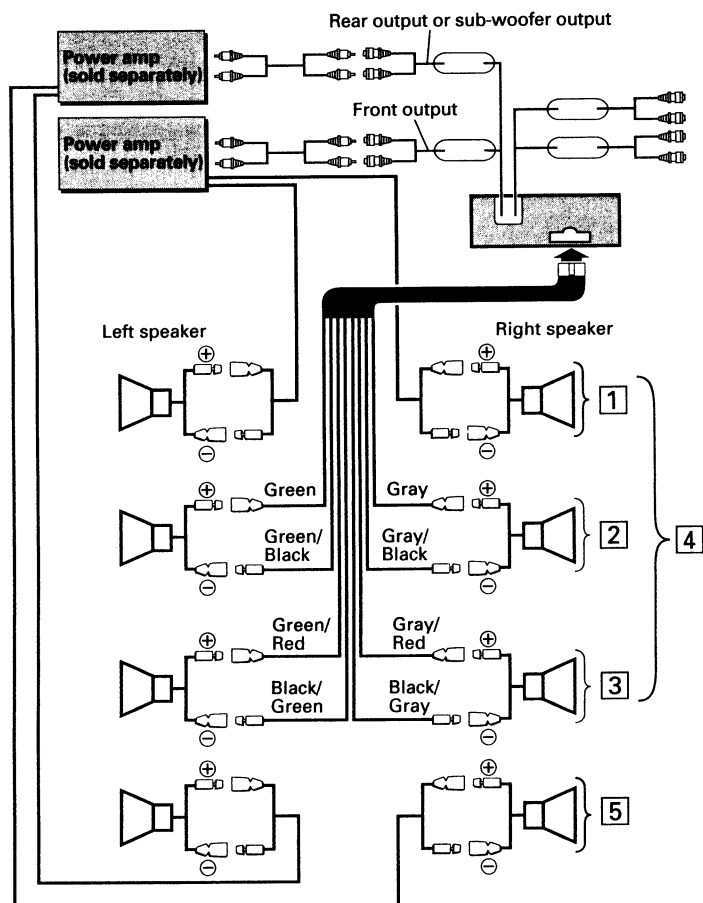
Pressing the (+) side of button [1] decreases the volume from Speaker [3] and pressing the (-) side decreases the volume from Speaker [2]. (Display shows "FAD1 F9" — "FAD1 R9".)

Fader 2

Pressing the (+) side of button [1] decreases the volume from Speaker [5] and pressing the (-) side decreases the volume from Speaker [4]. (Display shows "FAD2 F9" — "FAD2 R9".)

Notes:

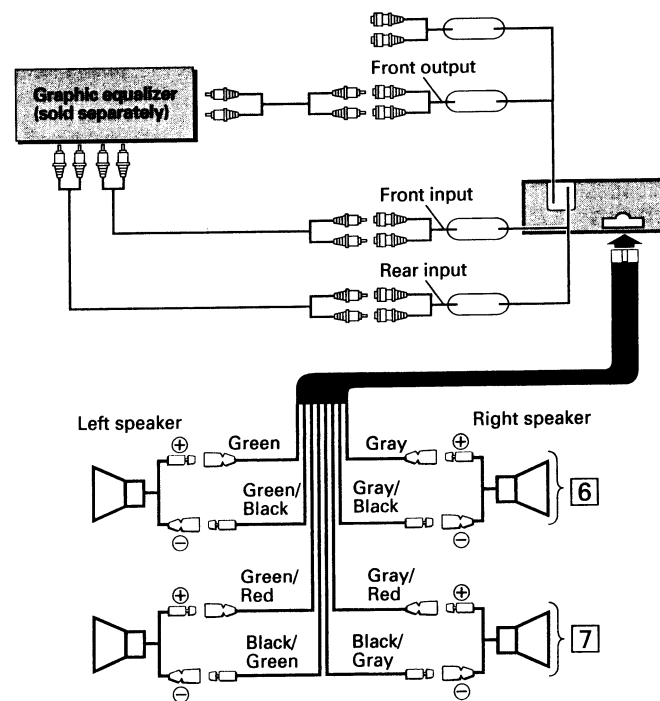
- When either Speaker [2] or Speaker [3] is not connected, set Fader 1 to its center position, "FAD1 0." Adjust the Speaker [4] and Speaker [5] output with Fader 2.
- When Speaker [5] is not connected, set Fader 2 to its center position, "FAD2 0". Adjust the Speaker [2] and Speaker [3] output with Fader 1.



- For details on connecting this unit and a power amplifier, see "Connections" on page 15.

Combining this unit with a graphic equalizer

Set this unit's Fader 1 and Fader 2 to "FAD1 0" and "FAD2 0". Adjust the output from Speaker [6] and Speaker [7] with the graphic equalizer, not with this unit.



- For details on connecting this unit and a graphic equalizer, see "Connections" on page 15.
- When you connect this unit with a graphic equalizer, you must switch the "MAIN IN" switch on the bottom of this unit. Refer to the "Carry out the following before connections and installation" on page 15.

Adjusting Bass

Pressing the (+) side of button [1] increases bass, while the (–) side decreases bass.

(Display shows “BAS–6” — “BAS +6”.)

Adjusting Middle

Pressing the (+) side of button [1] increases middle, while the (–) side decreases middle.

(Display shows “MID–6” — “MID+6”.)

Adjusting Treble

Pressing the (+) side of button [1] increases treble, while the (–) side decreases treble.

(Display shows “TRE–6” — “TRE+6”.)

Adjusting Balance

Pressing (+) side of button [1] shifts the balance to the left speaker, while the (–) side shifts it to the right speaker.

(Display shows “BAL L9” — “BAL R9”.)

- When you're adjusting fader, bass, middle, treble, or balance settings, the indicator will stop at the center setting. About 5 seconds after adjustment has been made, the display returns to its previous state.

Using the Sub-woofer

This unit's rear pre-out output terminals can also be used as sub-woofer output terminals. (For details on wiring, see “Connections” on page 15.) When using these terminals as sub-woofer output terminals, carry out the following operations.

- When the sub-woofer function is used, the Fader 2 function does not work. When button [9] in the previous item is pressed, the display moves to the next step in the sequence: Volume — Fader 1 — Sub-woofer — Bass — Middle — Treble — Balance. (In other words, the Sub-woofer display replaces the Fader 2 display.)

Using the sub-woofer function

1. Press button [9] repeatedly to switch to the Fader 2 display (“FAD2 F9” — “FAD2 R9”).
2. When you hold down button [9] for at least 2 seconds, “SUB. WOOFER” [12] lights up and the sub-woofer function comes on. The display switches to the sub-woofer display for about 5 seconds (displaying the frequency and output level “80HZ 0”).
3. To end the sub-woofer function, press button [9] repeatedly to switch to the sub-woofer display. Holding down button [9] for at least 2 seconds while the sub-woofer is being displayed ends the sub-woofer function.

Frequency and output level adjustment

1. Press the button [9] repeatedly to switch to the sub-woofer display. (For about 5 seconds, the display shows the frequency and output level “80HZ 0”.)
2. While the sub-woofer display is shown, adjust the frequency and output level. Pressing the (+) or (–) side of button [8] raises or lowers the frequency. Pressing the (+) or (–) side of button [1] raises or lowers the output level. The frequency can be set to 50 Hz, 80 Hz, or 120 Hz. The output level can be set within the range from –6 to 6.

Using Source Level Adjuster

You may wish to adjust volume when you have changed the source to radio, tape, or CD or when you have changed the radio band from FM to AM. You can do so on the basis of the volume of FM as follows:

1. Use the button [7] to change the source. (In case of radio, change the band to AM.)
 2. Hold down the button [9] for about 2 seconds, and the display will show you the volume of the source. (Display shows “V–4” — “V+4”.)
 3. Pressing the (+) side of button [1] raises the volume and pressing the (–) side lowers it. About 5 seconds after the completion of the adjustment, the display returns to whatever it was showing before the adjustment.
- No adjustment can be made when an FM station is tuned in.

Using the Loudness Function

Press button [3] and the “LOUD” [13] will appear on the display. This “loudness” function enhances both the high and low ranges of sound to give even more power to output even at low volumes.

Switching Illumination Colour

Pressing button [6] toggles the illumination colour between green and amber.

Regarding the Cellular Telephone Muting

When the audio mute terminal of a cellular telephone is connected to the cellular mute terminal of the unit, the following function becomes active.

When a phone call is received or made on the cellular telephone, the volume is automatically lowered by the unit, and “CALL” is shown on the display.

When a call is ended, the volume returns to the previous level and the previous display is shown again.

- When the volume is lowered by the operation of the cellular telephone muting function (“CALL” is shown on the display), the unit's shift Button [9] and the attenuator button of the remote controller unit are disabled.

4. USING THE RADIO

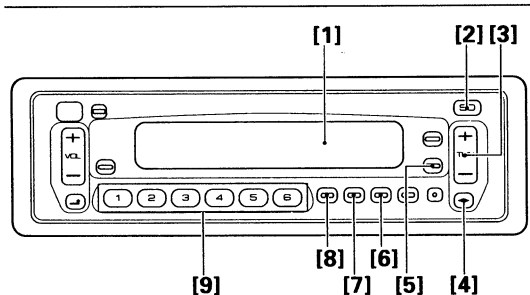


Fig.4

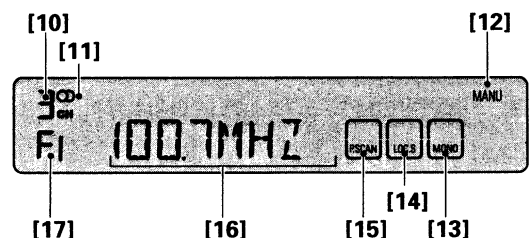


Fig.5

Parts Identification

(Fig. 4)

- [1] Display
- [2] Source Selector
- [3] Tuning/Local Seek Sensitivity/Seek, Manual
- [4] Band
- [5] Best Stations Memory (BSM)
- [6] FM Stereo/Mono
- [7] Local Station
- [8] Preset Scan
- [9] Preset

(Fig. 5)

- [10] Preset Number
- [11] FM Stereo
- [12] Manual
- [13] FM Mono
- [14] Local Station
- [15] Preset Scan
- [16] Frequency
- [17] Band

Listening to the Radio

- Electronic Tuner
Frequency allocation differs depending upon the area. This unit has been designed in accordance with the frequency allocations for North America. Use in other areas may result in improper reception of AM.

1. **Press button [2] to switch the radio power on.**
Press button [2] to switch the tuner on and off. Operations will be different when the unit is combined with a separately available multi-play CD player (CDX-M33, etc.). For details on "Switching Power ON" refer to the relevant clause, on page 4.
2. **Press button [4] to select a band.**

(FM1) (FM2) (FM3) (AM)

3. **Use seek tuning to tune in a frequency.**
Ensure that "MANU" [12] is not indicated on the display. (If so, turn it off by simultaneously pressing the (+) and the (-) sides of button [3].) Press either the (+) side or the (-) side of button [3]. When the (+) side is pressed, the tuner will automatically receive high frequencies. When the (-) side is pressed, it will automatically receive low frequencies.
4. **Adjust volume and tone (see page 4).**

5. Assign the tuned frequency to one of the buttons in Bank [9] (preset memory).

Press and hold down one of the button in Bank [9] for at least 2 seconds. The frequency is assigned to the selected button when the preset number [10] stops flashing on the display. Up to 18 FM stations (6 each for FM1, FM2 and FM3), and 6 AM stations can be assigned to the preset memory buttons in Bank [9].

6. Once a frequency is assigned to a button in Bank [9], you just need to press that button to tune it in.

This also causes the number of the button pressed to appear at position [10] on the display.

BSM (Best Stations Memory)

This function automatically locates stronger stations and automatically assigns their frequencies to the buttons in Bank [9], from strongest to weakest. It comes in handy when trying to find local stations while driving.

1. Press button [4] and select a band.
2. Hold down button [5]. After about 2 seconds, a "beep" will sound to signal that the BSM search has started. At this time, "BSM" will flash on the display.
3. The frequency display will return once BSM search is complete, and frequencies are assigned to buttons 1 through 6 in Bank [9].
- At the end of the BSM search, the displayed frequency is that assigned to button "1" of Bank [9].
- If there are fewer than six strong stations in the area, some of the buttons in Bank [9] will not be assigned frequencies, so they will retain any frequencies assigned to them previously.
- BSM search may take as long as 30 seconds in areas where there are few strong stations.
- You can cancel BSM search by pressing button [5] again.

Preset Scan Tuning

This function lets you automatically monitor the stations assigned to the preset buttons.

1. Press button [8]. The preset scan frame [15] lights up and the preset number [10] blinks. The broadcast stations stored with button [9] that are being received are called out one after another for 8 seconds each.
2. When you hear a station that you like, press button [8] again to cancel preset scan tuning and remain at that station.

Adjusting Seek Sensitivity

The seek tuning function of this tuner lets you select between a local setting for reception of strong stations only, and a DX (distant) setting for reception of weaker stations. The local setting also has four seek tuning sensitivity levels for FM and 2 levels for AM to match local conditions.

Changing the Local Seek Sensitivity

1. Use button [4] to select a band.
 2. Hold down the button [7] for more than 2 seconds, and the display will show you the current local seek sensitivity for about 5 seconds. (Example: LOC-2)
 3. While the local seek sensitivity remains on the display, press the (+) side of button [3] to increase the sensitivity level, and the (-) side to decrease the level as shown below.
 FM : LOC-1 \rightleftharpoons LOC-2 \rightleftharpoons LOC-3 \rightleftharpoons LOC-4
 AM : LOC-1 \rightleftharpoons LOC-2
 The LOC-4 setting allows reception of only the strongest stations, while lower settings let you receive progressively weaker stations.
- The display of local seek sensitivity returns to the frequency when about 5 seconds have elapsed after the change of sensitivity.

Switching between Local and DX

Press button [7] to switch between Local and DX (distant) seek tuning. When the frame of local seek [14] is lit, seek tuning is performed with the local seek sensitivity. Otherwise, seek tuning is performed with the DX seek sensitivity.

Manual Tuning

Use manual tuning when stations are too weak to be picked up by seek tuning.

1. Turn on "MANU" [12] by simultaneously pressing the (+) side and the (-) side of button [3].
2. Each press of the (+) side of button [3] increases the frequency in 0.2 MHz steps in the FM band, 10kHz in the AM band. Pressing the (-) side of button [3] decreases the frequency. Holding down either side of button [3] changes the frequency at high speed.

Switching between FM Stereo and Mono

Generally, it is best to allow the "Super Tuner" function to automatically set the optimum listening conditions. "Ⓞ" [11] turns on during stereo broadcast is in reception. When there is a large amount of noise, you can press button [6] for clearer mono reception (The frame of FM mono [13] turns on).

5. USING THE TAPE DECK

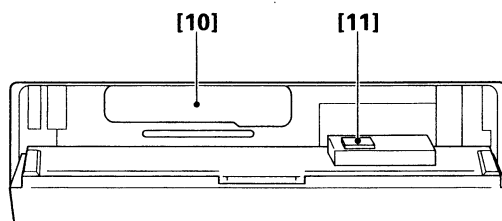
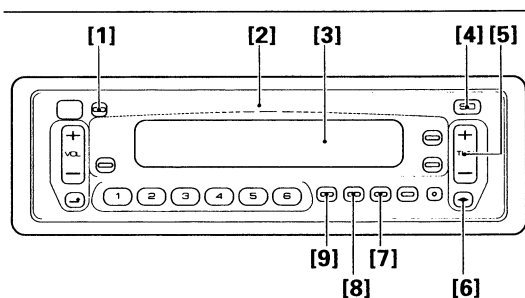


Fig.6

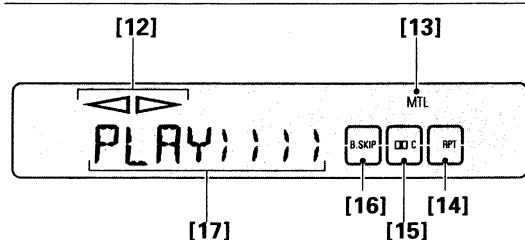


Fig.7

Parts Identification (Fig. 6)

- [1] Open
- [2] Front panel
- [3] Display
- [4] Source selector
- [5] Fast forward, Rewind/Music search
- [6] Direction change/Release
- [7] Repeat
- [8] Dolby B and C NR
- [9] Blank skip
- [10] Cassette slot
- [11] Eject

(Fig. 7)

- [12] Direction
- [13] Metal
- [14] Repeat
- [15] Dolby B and C NR
- [16] Blank skip
- [17] Tape play

About cassette tapes

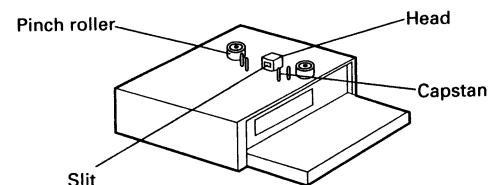
- Do not use tapes longer than C-90-type (90 min.) cassettes. Longer tapes can interfere with tape transport.
- Storing cassettes in areas directly exposed to sunlight or high temperatures can distort them and subsequently interfere with tape transport.



- Store unused tapes in a tape case where there is no danger of them becoming loose or being exposed to dust.

Cleaning the head

If the playback head becomes dirty, sound quality will suffer. Periodically (once or twice a month) clean the head with a cotton swab soaked with alcohol.



Listening to a tape

1. Press button [1] to open the front panel.
2. Load a cassette in through the cassette slot [10].

The cassette will play.

Tape play [17] and direction [12] appear.

- Do not take out the cassette while it is being loaded. If taken out forcibly, a cassette cannot be loaded later. If a cassette cannot be loaded, hold button [11] depressed and load the cassette again.

3. Close the front panel and adjust volume and tone (see page 4).

4. To stop play halfway, press button [4] to switch the function off.

To restart play, press button [4] some times until PLAY [17] appears on the display. The tape begins playing at the position where it stopped.

5. To eject the cassette, press button [1] to open the front panel and press button [11].

- Power is automatically turned off when the cassette tape has not been set within a few seconds. When this happens, remove the tape by pressing the button [11] because of a possible trouble with the tape.
- A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.

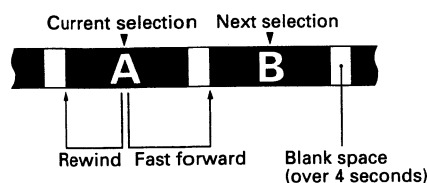
Changing Program

Press the button [6] to change the side of tape from A to B or vice versa.

Using Fast Forward and Rewind

1. To fast forward tape, press the (+) side of the button [5].
(Display shows "FF".)
To rewind tape, press the (-) side.
(Display shows "REW".)
2. To release the fast forward or rewind function, press the button [6].

Using Music Search



1. To repeat the current selection (A), press the (-) side of the button [5] two consecutive times.
(Display shows "R-MS".)
To hear the following piece of music (B) rather than continue the current selection, press the (+) side of the button [5] two consecutive times.
(Display shows "F-MS".)
Pressing the button [5] three consecutive times makes the normal sequence of playing resume.
2. To release the music search function, press the button [6].

The following errors will cause the music search function to operate improperly, even though the unit is not malfunctioning.

- Unrecorded blank portion between selection is less than 4 seconds — the blank portion cannot be detected by the unit.
- Pauses in recorded conversations are longer than 4 seconds — the unit reads these as blanks between selections.
- Portions are recorded at very low volume for more than 4 seconds — the unit reads these as blanks between selections.

Dolby B and C NR

Press button [8] to listen to a cassette recorded using the Dolby NR system. Each press of button [8] shifts the Dolby NR mode as follows:

Dolby B NR ("B") [15] appears) — Dolby C NR ("C") [15] appears) — Dolby NR off.

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Auto Tape Selector

When a cassette tape is inserted, the automatic tape selector determines the tape type, and switches between 70 μ s and 120 μ s equalization. When it is a metal or chrome tape, "MTL" [13] comes on. When it is a normal tape, nothing comes on.

Using the blank skip function

Automatically carries out fast forward to the start of the next selection when there is a blank area of 10 seconds or more between selections.

1. Press button [9] and frame [16] will light. The unit will now carry out fast forward to the start of the next selection when there is a blank area of 10 seconds or more between selections.
2. To release the blank skip function, press button [9] again.

Using the Music Repeat Function

Lets you listen to the same selection repeatedly.

1. When you want to listen to the same selection repeatedly, press button [7] and frame [14] will light.
2. To release the music repeat function, press button [7] again or press button [6].

Precautions When Using the Multi-Play CD Control

- This model can be used as controller when an optionally available multi-play CD player (e.g., CDX-M33) is included in the system. Programmed play does not operate when used with the multi-play CD player CDX-M70 or CDX-M100.
- See pages 11 through 14 for details on operation procedures.
- The Owner's Manual for the multi-play CD player does not contain an explanation of the CD controls for this unit. Read this Owner's Manual for details on proper operation and keep it handy for later reference.
- Immediately after the multi-play CD player is connected to the system, it may not operate properly (i.e. the system will not enter the multi-play CD player mode when you press the source selector button). In this case, press the clear button of the main unit and the clear button of the multi-play CD player, and attempt operation again.

Listening to the Compact Disc

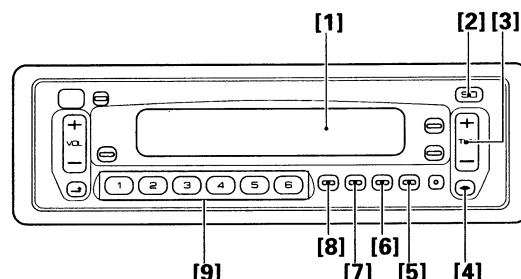


Fig. 8

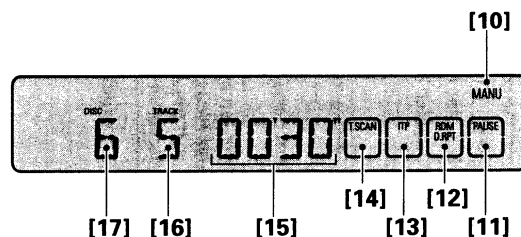


Fig. 9

Parts Identification (Fig. 8)

- [1] Display
- [2] Source Selector
- [3] Track Number Search/Fast Forward, Reverse
- [4] Program Clear
- [5] Pause
- [6] Mode
- [7] ITP (Instant Track Program)
- [8] Highlight Scan
- [9] Disc Number Search

(Fig. 9)

- [10] Manual
- [11] Pause
- [12] Music Repeat/Random Play/Disc Repeat
- [13] ITP (Instant Track Program)
- [14] Highlight Scan
- [15] Play Time
- [16] Track Number
- [17] Disc Number

1. Press button [2] to change the display to the Multi-Play CD Player mode and to begin disc play.

Disc number [17], track number [16] and play time [15] will light. Each press of button [2] changes the mode as follows:

Multi-Play CD Player → Tape → Tuner → OFF

2. Use the Disc Number Search function to select a disc.

At the [9] button, press the disc number of the disc you wish to play. When the button is pressed, the selected disc number is displayed at [17] on the display and the playing starts.

- If pressing the [9] button has no effect (the pressed number is not displayed at [17]), check if there is a disc at that number.

3. Adjust volume and tone. (See page 4.)

4. To stop disc play, press button [2].

If you switch to the Multi-Play CD Player mode again, the normal play resumes from about where it stopped.

- If you stopped operating a Multi-Play CD Player CDX-M100 in the middle of music and then restarted, the player resumes playing from the very beginning of the selection with which you stopped.

Note:

- It takes about 30 seconds from setting the magazine in the multi-CD player till the start of CD playback. (During this time, "READY" blinks on the display.)
This does not indicate a problem; it is just for verifying there a disc in the magazine.
- After you press a Button in Bank [9], it may take some time before play begins due to the time necessary to load and set the disc in the mechanism.
- The display counts down the number of seconds between tracks if the spacing is rather large (-02, -01).

Error Mode

Should an abnormality occur — for example, Multi-Play CD Player cannot be operated, or the music stops during CD playback — the main unit will indicate an error mode.

While the unit is in error mode, a number will be displayed indicating the cause of the error, so please check the items listed below. If you cannot fix the problem after checking the cause of the error, please contact your dealer or your nearest Pioneer service center.

Note:

When using the Multi-Play CD Player, CDX-M100, CDX-M70, CDX-M50 and CDX-M40, an error will be displayed only in the form of "ERROR-□□", without the number which indicated the cause of the error. When this display appears, please check items 11, 12, 14, or 30 listed below.

HEAT indicator

To prevent deterioration in the semi-conductor laser from overheating, playback of a CD will stop when the temperature surrounding the Multi-Play CD Player rises during play.

When this occurs, "HEAT" will be indicated on the display. Please wait until the temperature drops.

- This function refers to the Multi-Play CD Player CDX-M100. It does not refer to other Multi-Play CD Players.

Display	Cause	Treatment
11, 12	Dirt or a scratch on the disc stops the laser beam from being able to focus.	Wipe the dirt off the disc. Exchange the disc if it is scratched.
	The disc has been inserted upside down.	Confirm that the disc has been inserted right side up.
14	The disc has been inserted upside down.	Confirm that the disc has been inserted right side up.
	An unrecorded one-time-recordable compact disc (CD-R) is being used.	When you use a CD-R, load one that has been recorded on.
30	Dirt or a scratch on the disc hinders the track number search function.	Wipe the dirt off the disc. Exchange the disc if it is scratched.
80	An empty magazine is loaded in the multi-play CD player.	Insert a disc in the magazine.
10, 12, 50, 60, 70, A0	Electrical or mechanical system fault.	Turn the car ignition switch OFF, then ON again, or change to other sources except CD playback, and then to CD playback again. If the error indication does not disappear, contact your dealer or your nearest Pioneer service station.

- When error numbers not mentioned above are indicated, refer to the owner's manual accompanying the multi-play CD player.

Track Number Search

The desired track on the disc currently being played can be selected by track (or song) number.

1. Ensure that **"MANU"** [10] is not indicated on the display. If so, turn it off by simultaneously pressing the (+) side and the (-) side of button [3].
2. Use the button [3] to select a track. Pressing the (+) side increases the track number [16], and pressing the (-) side decreases it. Holding the button down continuously increases or decreases the track number.

Using Highlight Scan

Highlight Scan is designed to enable you to conveniently scan all pieces of music contained in the disc by playing 10 seconds each at your designated point of time after the start of the music. The starting time of play is set at one minute in factory. Therefore, the Highlight Scan begins 1 minute after the start unless you designate it otherwise.

When you do not want to change the factory-set time:

- When used in conjunction with the old type Multi-Play CD Players [CDX-M70] or [CDX-M100], the place where playback starts in Highlight Scan is fixed as the start of each track. Also, it is not possible to adjust this time setting.
1. Pressing Button [8] turns on the frame of Highlight Scan [14].
 2. The contained pieces of music will be played in sequence for 10 seconds each 1 minute after the beginning.
 3. Press Button [8] again when your selected piece comes, and it will continue to play. At this point, the Highlight Scan discontinues to operate.
- The previous function automatically resumes when a piece of music with which Highlight Scan began returns.

Changing the Starting Time of Highlight Scan

When you want to set the starting time of the Highlight Scan to 30 seconds:

1. Indicate **"MANU"** [10] on the display by simultaneously pressing the (+) side and the (-) side of button [3].
 2. Keep pressing either (+) or (-) side of Button [3] until the numerals reaches 30.
 3. Pressing button [8] for 2 or more seconds, turns on the frame of Highlight Scan [14]. Highlight Scan will begin 30 seconds after the start of the next piece of music.
- The starting time of Highlight Scan can be designated at ten or tens of seconds only. A tenth or tenths of seconds can be disregarded.
 - If a piece of music ends before your designated point of time at which Highlight Scan starts, the scanning is performed for its beginning 10 seconds.
 - If a piece of music lasts less than 10 seconds, so does the Highlight Scan.
 - You may wish to change the starting time longer without suspending the function. You may do so, however, only to a relatively long-playing piece of music because, as a matter of course, the time cannot be set so as to come after the end of the music.

Using Disc Repeat, Music Repeat and Random Play

Each press of button [6] causes the mode to change as follows:

Music Repeat (**"RPT"** and the frame at [12] turn on) → Random Play (**"RDM"** and the frame at [12] turn on) → Normal.

If button [6] is pressed for 2 or more seconds, the mode changes to Disc Repeat (**"D.RPT"** and the frame at [12] turn on).

Music Repeat

1. To repeat the music you are listening to, select the repeat mode.
 2. To cancel Music Repeat, press button [6] to turn off frame [12].
- When Disc Repeat or Music Repeat are not operational, the compact discs contained in the magazine will play sequentially from beginning to end, and then start from disc 1 again.

Random Play

1. To play music randomly, select the random play mode. Once the current track has been played, the microprocessor will randomly select the next and subsequent tracks.
 2. To cancel random play, press button [6] to turn off frame [12].
- Since selections are played in random order, the same selection may be played twice in succession.
 - When a Multi-Play CD Player CDX-M100 is used, random selection is made from a disc being played.

Disc Repeat

The Disc Repeat function causes the same disc to play repeatedly.

1. Press button [6] for 2 seconds or more while the desired disc is being played. The mode will change to Disc Repeat mode.
 2. To cancel Disc Repeat, again, press button [6] for 2 seconds or more and turn off the frame at [12].
- Even during Disc Repeat, the mode will change each time button [6] is pressed, in the following order:
Music Repeat → Random Play → Normal
 - When Disc Repeat or Music Repeat are not operational, the compact discs contained in the magazine will play sequentially from beginning to end, and then start from disc 1 again.

Using Fast Forward and Reverse

1. Turn on **"MANU"** [10], by simultaneously pressing the (+) and the (-) sides of button [3].
2. Press the (+) side of button [3] for fast forward, and the (-) side for reverse.
 - Sound is output during fast forward and reverse operations.

Pausing

1. Press button [5] to pause during disc playback (**"PAUSE"** and the frame at [11] appears).
2. Press button [5] again to release pause.

Note:

- When connected to a CDX-M50 some functions may not operate correctly. For example, when operating the pause function, the music will pause slightly ahead of the point at which the function was activated.
- The pause function does not operate at all if this unit is connected with the CDX-M70 or the CDX-M100.

Using Program Play

This function lets you program the play sequence of all of the tracks contained on the compact discs loaded in the magazine.

- The ITP function will not operate when connected to either the CDX-M70 or CDX-M100.
- Up to 32 selections can be programmed for a single magazine.
- Up to 16 different magazines (max. 32 selections per magazine) can be programmed individually. If you program more than 16 magazines, old programs are automatically replaced by new ones.
- Automatic Magazine Program Selection (AMPS) retrieves the right program from the memory automatically, as soon as a preprogrammed magazine is loaded. Preprogrammed magazines are identified using the CD in the tray 1 of the magazine. Therefore be sure that tray 1 contains a disc.

Programming

1. While a disc is playing, select the desired disc and track you want to program.
2. Press the ITP button [7] memorize the track being played.
(Display shows **"P-01"** — **"P-32"**.)
3. Procedures 1 and 2 above can be repeated until a maximum of 32 steps are programmed.
 - If the 33rd step is selected, the **"FULL"** display will appear, indicating that no more selections can be programmed.
 - When there are already a number of selections in the memory, the new selection will be added to the last step.

Playing back the program

1. If the ITP button [7] is pressed for about 2 seconds during normal playback, then program playback will start.
(Frame [13] lights up and the program step number **"PP01"** — **"PP32"** is displayed.)
2. Press the ITP button [7] again to cancel program play.
 - Pressing button [3] during programmed play makes it possible search for a specific step number from among the programmed selections.
 - Program play returns to the first step in the programmed sequence when it reaches the end of the program.
 - When playing a magazine that has no program recorded, **"EMPTY"** will be displayed for approximately 3 seconds.

Erasing the Program

It is possible to erase one or all selections of the program in the magazine being played.

To erase a single selection:

1. Press the (+) or (-) side of button [3] during programmed play, and search for the specific step you wish to erase.
2. Press button [4] for at least 2 seconds and the selection being played will be erased.
 - After the particular track has been erased, the tracks in the next position move from down up one notch in the order from the previous position.

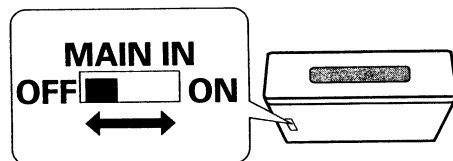
To erase the entire program:

While a disc is playing, hold down button [4] for at least 2 seconds. All the programs in the magazine being played will be erased.
(Display shows **"CLEAR"**.)

Carry out the following before connections and installation

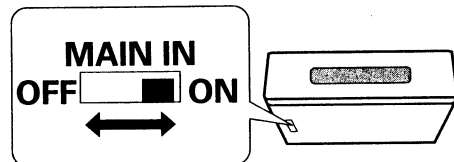
When not connecting a graphic equalizer to this unit

Make sure that the MAIN-IN switch on the bottom of this unit is OFF. This unit's audio is not output if this switch is ON, so switch to OFF.



When connecting a graphic equalizer to this unit

Make sure that the MAIN-IN switch on the bottom of this unit is ON. If you forget to switch to ON, the graphic equalizer will not work correctly.



Connections

Note:

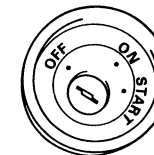
- This unit is only for cars with 12V batteries (negative grounded). Carefully check the battery voltage before installing this unit in a truck or bus.
- To avoid shorts in the electrical system, be sure to disconnect the battery \ominus cable before beginning installation.
- After completing installation and wiring, double check that there are no mistakes. Re-install any parts removed from the car during installation, then connect the battery negative terminal.
- When wiring cords, fasten them with clampers, adhesive tape, or the like. Also, to protect the insulation of cords, always protect them with tape or the like where they touch metal sections.
- Wire and fasten cords in such a way that they are not caught in the transmission shift lever, parking brake, seat rails, and other moving parts. Also, avoid hot locations such as the outlets of heaters. A cord with its insulation cut by moving parts or melted by heat can short to the body of the car, which is dangerous!
- Do not wire Orange leads (for constant-feed power supply) by cutting a hole into the engine compartment and connecting directly to the battery.
- Do not cut cords to shorten them. This is dangerous because it may prevent the protection circuit from operating correctly.
- Do not cut into the insulation of this unit's power cord to take out power for another unit! This is dangerous because it can overload and overheat the power cord.
- Replace the fuses only with the types stipulated on the fuse holder.
- Cover unused terminals with tape to prevent electrical shorts.
- Refer to the owner's manual for details on connecting the various cords of the power amp and other units, then make connections correctly.
- Since a unique BPTL circuit is employed, never wire so the speaker leads are directly grounded or the left and right speaker \ominus leads are common.
- Speakers connected to this unit must be high-power type possessing maximum input of at least 30W and impedance of 4 to 8 ohms. Connecting speakers with output and/or impedance values other than those noted here can damage the speakers.

- When the power amp is being linked with this system, be sure not to connect the blue lead to the amp's power terminal. Likewise, when linking this system with the auto-antenna, do not connect to power terminal for the antenna. Such connection can make overcurrent cause malfunctions.
- When the unit is mounted in a vehicle whose ignition switch does not have the ACC (accessory) position as shown in Fig. 11, be sure to connect the red lead of the unit to the terminal controlled by the ignition switch ON/OFF position. If you do not, the vehicle battery may go flat when you leave your vehicle for several hours.



ACC position

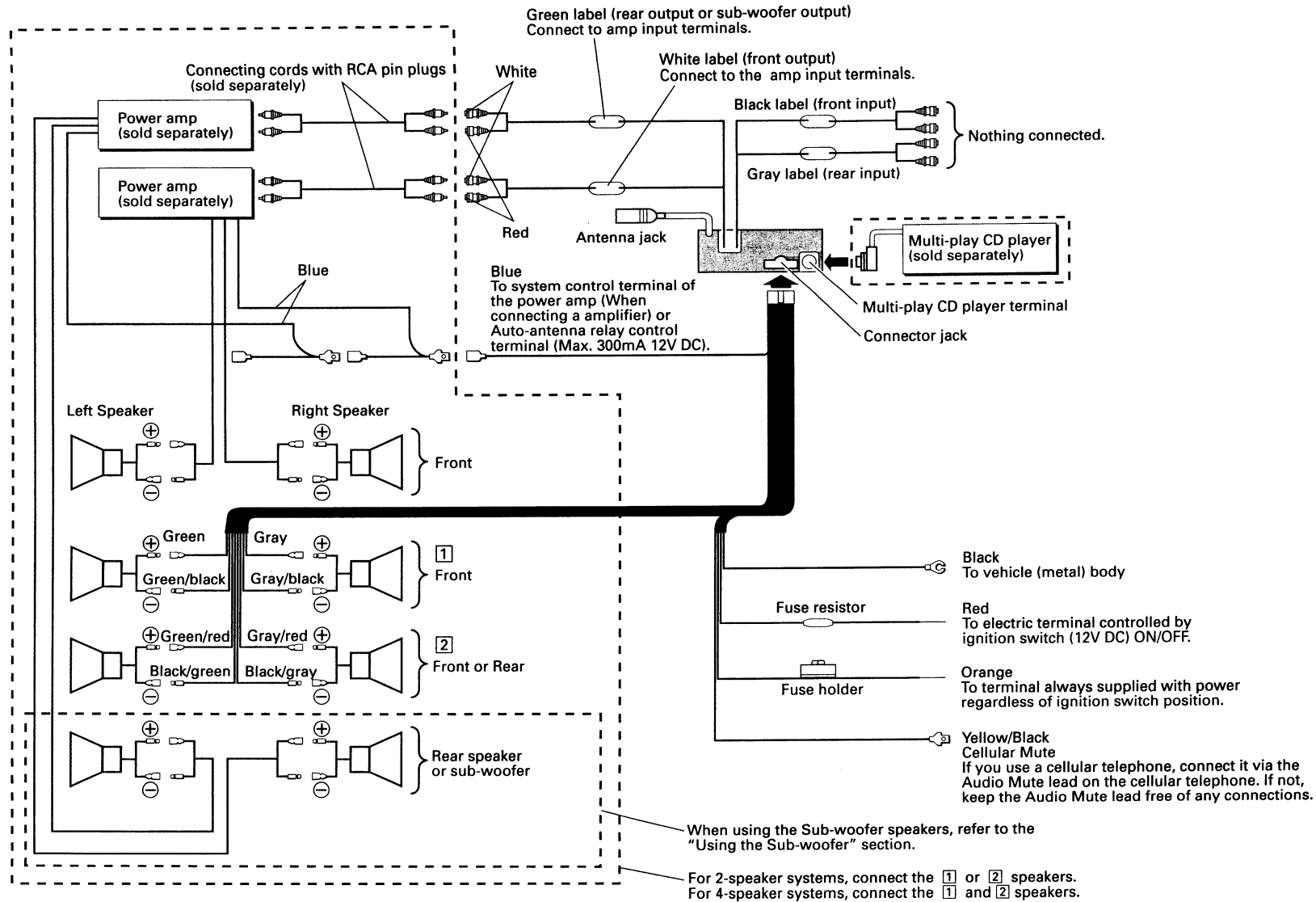
Fig. 10



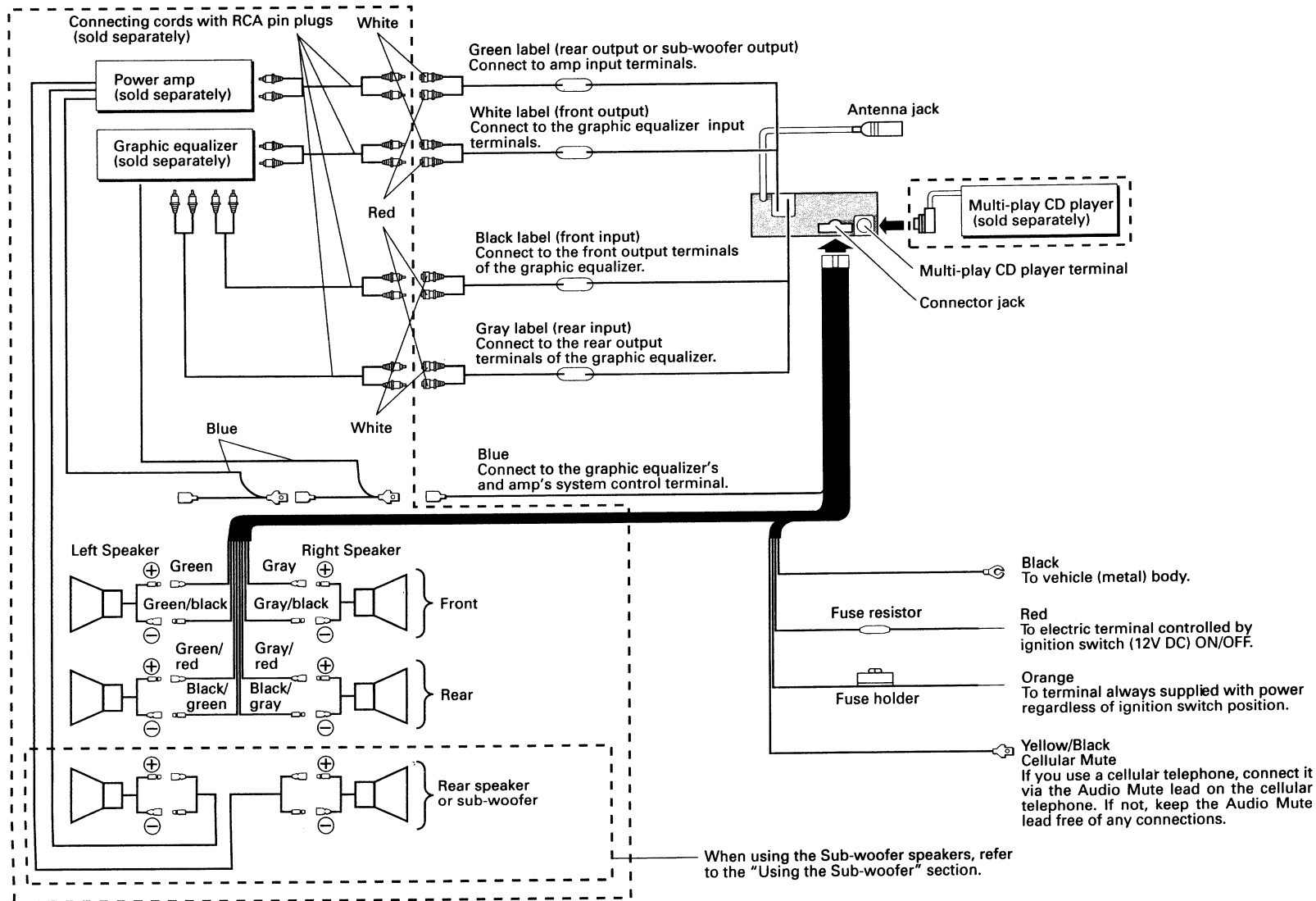
No ACC position

Fig. 11

●Speaker system



●Speaker + graphic equalizer



8. USING THE CLOCK DISPLAY

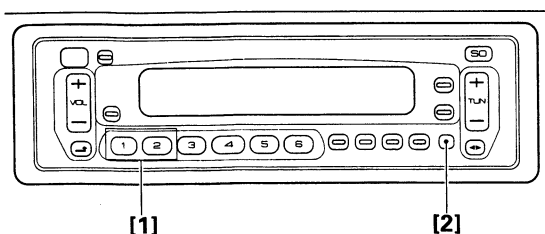


Fig. 12

Parts Identification (Fig. 12)

- [1] 1 button: hour adjustment
- [1] 2 button: minute adjustment
- [2] Clock

Displaying the Time

The clock is displayed when button [2] is pressed. Press button [2] again to switch off the clock display.

- The clock display can be used only when the main unit is in operation.
- When the clock is being displayed, pressing any other button will end the clock display. The clock will be displayed again about 25 seconds after the last button is pressed.

Adjusting the Time

Adjusting Hour

While holding down button [2], press button 1 of the buttons shown on [1], to adjust the hour setting. Each time button 1 is pressed, the hour advances by one hour. Holding down button 1 advances the hour at high speed.

Adjusting the Minutes

While holding down button [2], press button 2 of the buttons shown on [1] to adjust the minute setting. Each time button 2 is pressed, the minute advances by one minute. Holding down button 2 advances the minute at high speed.

9. DISASSEMBLY

●Removing the Case

- 1.Remove the two screws.
- 2.Insert and turn pair of tweezers to remove the case.

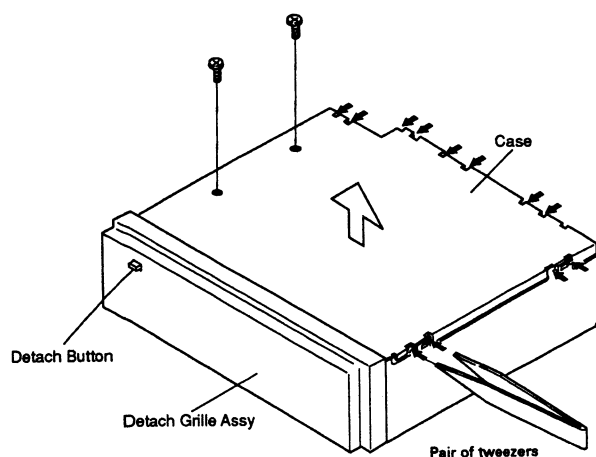


Fig.13

●Removing the Cassette Mechanism Module

- 1.Remove the four screws.
- 2.Disconnect the connector of deck unit.
- 3.Remove the cassette mechanism module.

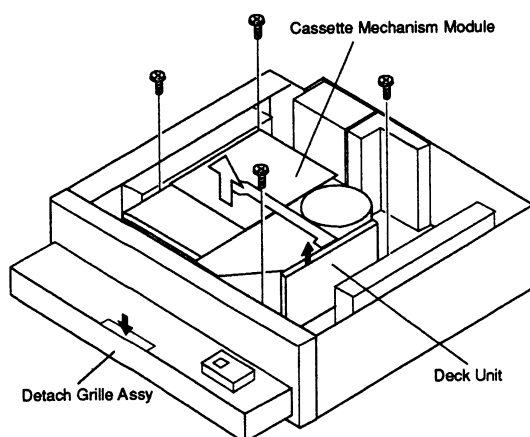


Fig.14

●Removing the Detach Grille Assy

- 1.Press the detach button.(Fig.13)
- 2.Press the button indicated by arrow and then remove the detach grille assy. (Fig.14)

●Removing the Panel Assy

- 1.Remove the two screws, and disconnect the two connectors.
- 2.Disengage the stoppers at four locations indicated by arrows.
- 3.Remove the panel assy.

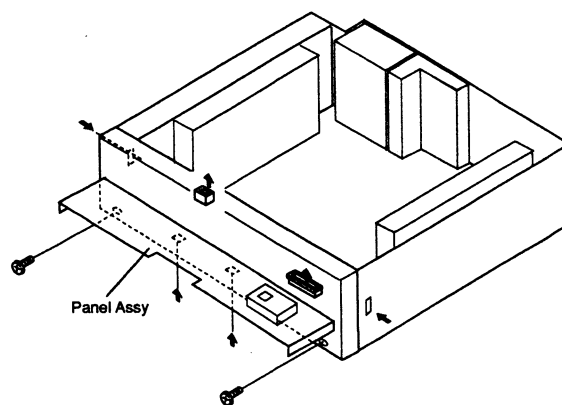


Fig.15

●Removing the Tuner Amp Unit

- 1.Remove the seven screws.
- 2.Remove the screw A and then remove the holder.
- 3.Unbend the tabs at two locations indicated by arrows until straight.
- 4.Raise up on tuner amp unit to remove it from chassis unit.

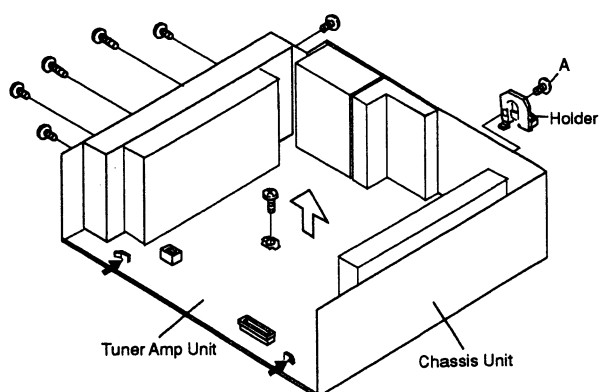


Fig.16

●Removing the Cover Unit

- 1.Remove the three screws.
- 2.Disengage the stoppers at four locations indicated by arrows.
- 3.Remove the cover unit.

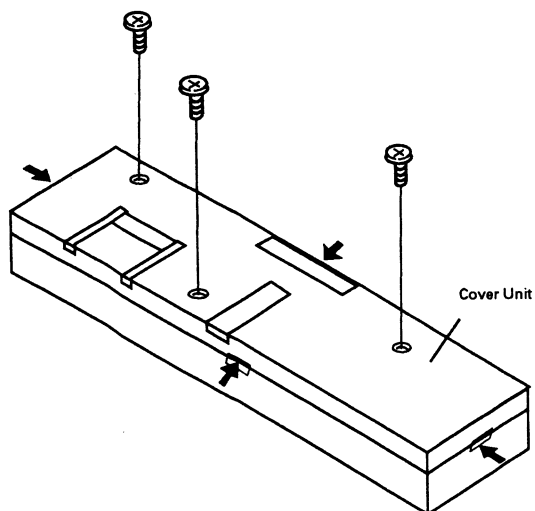


Fig.17

●Removing the Key Board Unit

- 1.Remove the three screws.
- 2.Remove the key board unit.

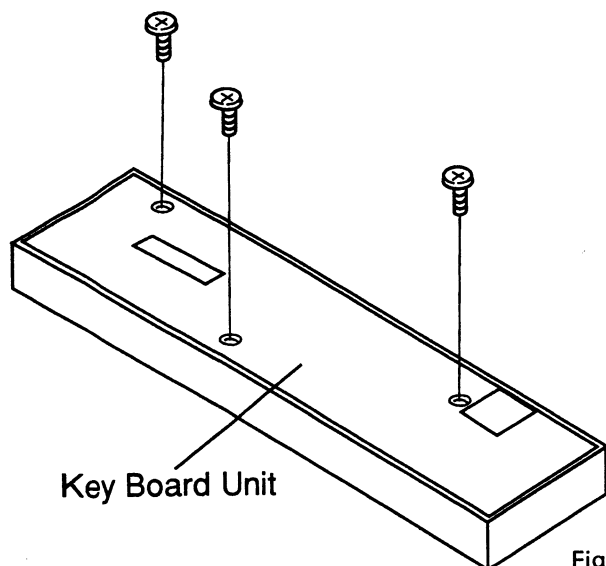


Fig.18

10. BLOCK DIAGRAM

●KEH-M780/US

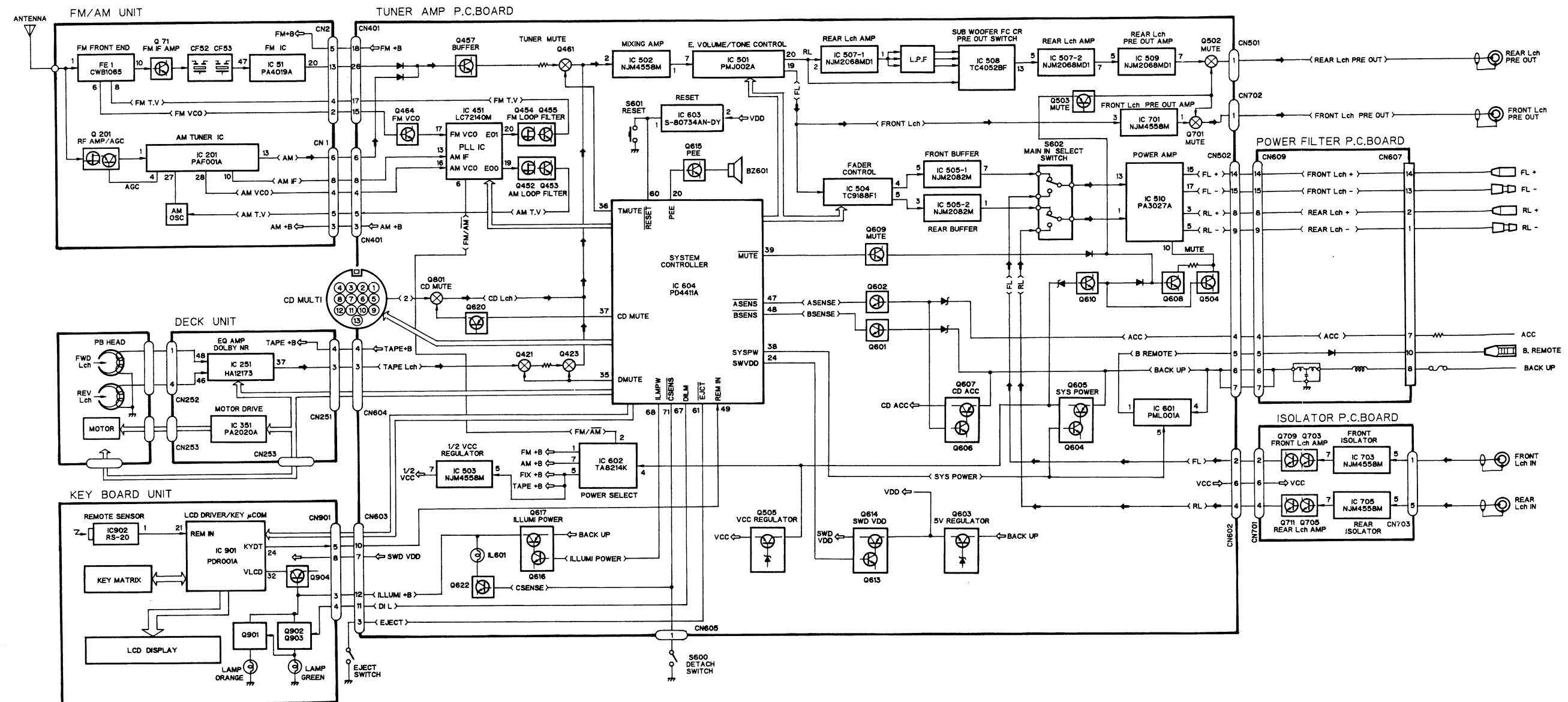


Fig. 19

11. ADJUSTMENT

●Test Mode

Test mode is mainly used in adjustment of CD multi-players.

- Switching to test mode
 - 1.Turn off the Back-up and ACC off.
 - 2.Discharge VDD.
 - 3.Turn the Back-up and ACC on while pressing the 4 and 6 keys together.
- Canceling test mode
 - While pressing the CD multi-player clear button, switch this unit back-up and ACC off.
- Key functions during test mode
 - The CD multi-player, deck, and tuner are selected by the SOURCE button.

a) CD multi-player

key	Function
ITPCLR/DIR/BAND	Regulator ON/OFF
AUTO/MANU(FF+REV)	Carriage/Tracking switching
FF	FWD kick
REV	REV kick
F1(TSCAN)	Tracking close
F3	Tracking open
F2	Focus close
DISC1-DISC6	DISC Change

- b) Deck and tuner
 - No corresponding function. Normal operation executed.

●Flow Chart

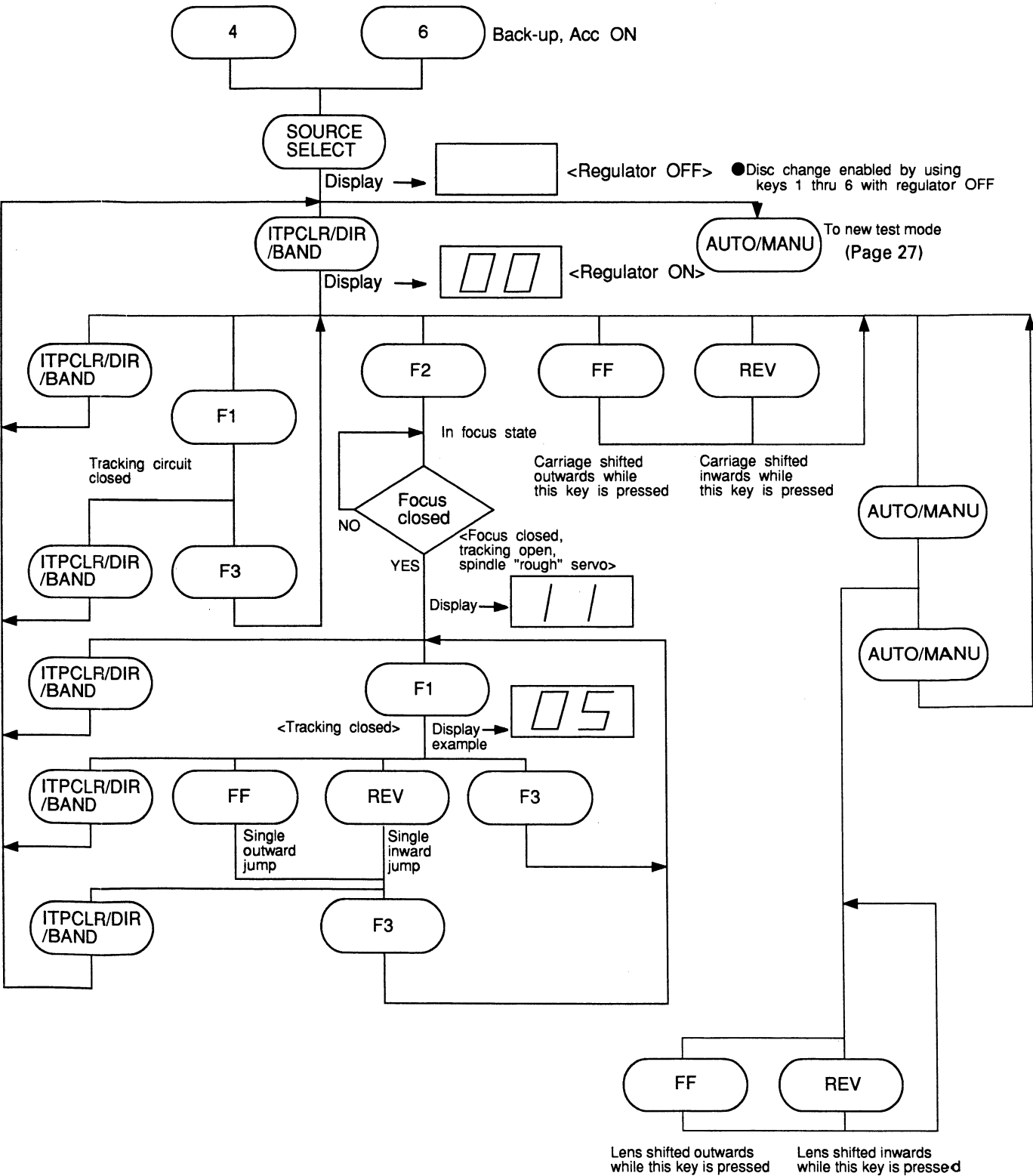


Fig. 20

● Connection Diagram

NOTICE:
Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.
Z: Output impedance of SSG.

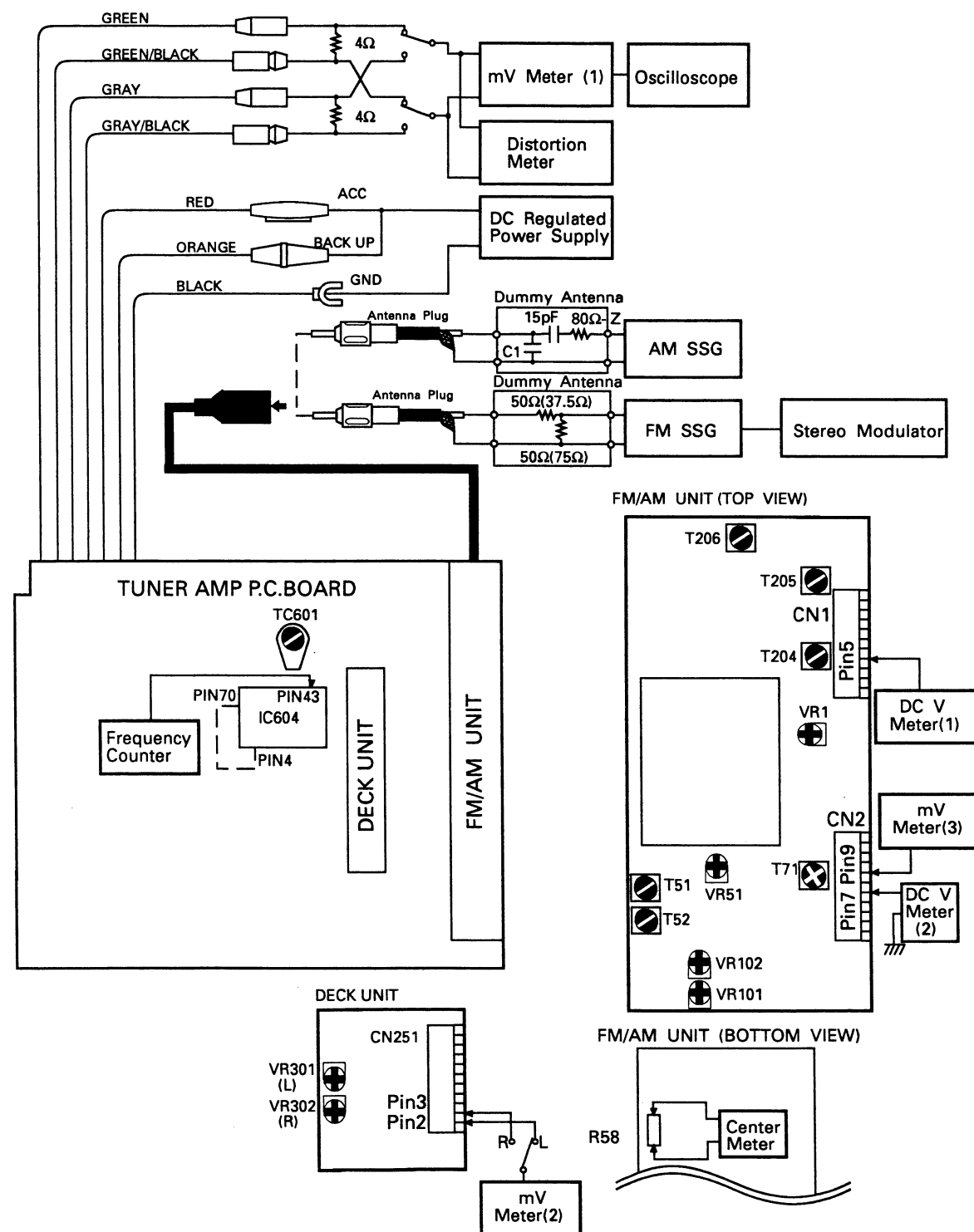


Fig. 21

FM ADJUSTMENT ※ Stereo MOD.: 1kHz, L+R=90% , Pilot=10%

	No.	FM SSG(400Hz, 100%)		Displayed Frequency (MHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (MHz)	Level (dBμV)			
IF	1	98.095	60	98.1	T51	Center Meter:0
	2	98.095	60	98.1	T52	Distortion Meter:Minimum
	3	Repeat No.1—2 alternately so that the center meter indicates the 0 output and distortion meter indicates minimum output.				
IFT	1	98.1	60	98.1	T71	mV Meter(3):Minimum
Soft Mute	1	98.1	60	98.1	—	mV Meter(1): A dB
	2	98.1	9	98.1	VR102	mV Meter(1): A-3 dB
ARC	1	98.1※	33	98.1	VR101	mV Meter(1):Separation 5 dB
SD	1	98.1※	15	98.1	VR51	DC V Meter (2):Approx. 5V
LOCH	1	98.1※	53	98.1	VR1	DC V Meter (2):Approx. 5V

AM ADJUSTMENT *ES model when tuning step at 9kHz.

	No.	AM SSG(400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dBμV)			
Tuning Volt	1	—	—	1,710 *(1,602)	—	Verify that DC V Meter (1) is less than 6.5V.
	2	—	—	530 *(531)	—	Verify that DC V Meter (1) is more than 2.0V.
IF	1	1,000 *(999)	15	1,000 *(999)	T204, T205, T206	mV Meter(1):Maximum

CLOCK ADJUSTMENT

No.	Adjusting Point	Adjustment Method (Switch Position)
1		Pin 70 (TEST) of IC604 connect to pin 4 (VDD) of IC604.
2	TC601	Frequency Counter:1.048576MHz±2Hz

DOLBY NR ADJUSTMENT

No.	Cassette Tape	Adjusting Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz, 200nwb/m)	VR301 (Lch) VR302 (Rch)	mV Meter (2): -8.24dBm±1dB (300mV) (DOLBY NR Switch:OFF)

●New Test Mode

The CD ,either single or multiple, plays in the normal mode. After being set up, it will display FOK (focus), LOCK (spindle), subcode, sound skip, protection against a mechanical error or the like, occurrence of an error, cause and time of an expiry, if any, (and disc number in the multi-mode). During the setup, the CD software operation status (internal RAM and C-point) is displayed. The software on the head unit side dose not involve any special problem but runs normally.

- (1) How to Put in the NEW TEST Mode
See the test mode flow chart page 24.
- (2) Relations of keys between TEST and NEW TEST Modes.

P-BUS Commands	Keys	Test Mode		New Test Mode	New Test Mode
		Regulator OFF	Regulator ON	Play in progress	Error Protection } Talking place
B0	ITPCL/DIR /BAND	Regulator ON	Regulator OFF	(REL/CLR)	Time of occurrence Cause of error } Selected
B1	FF	—	FWD-KICK	FF	—
B2	REV	—	REV-KICK	REV	—
B3	F•1	—	TRACKING CLOSE	F•1	—
B4	F•3	—	TRACKING OPEN	F•3	—
B5	F•2	—	FOCUS CLOSE	F•2	—
B6	—	—	FOCUS OPEN	—	—
B7	—	—	Jump-OFF	—	—
B8	FF REV	To new Test Mode	Jump-Mode selected	FF REV	Occurrence T.No Time of occurrence } Selected

Operations, such as EJECT, CD ON/OFF, etc. are to be performed normally

(3)Error Cause (Error Number) Code

Error Code	Classification	Mode	Description	Cause/Detail
40	ELECTRIC	PLAY	FOK=L100ms	Put out of focus Scar, Stain, Vibration, Servo defect, etc....
41	ELECTRIC	PLAY	LOCK=L100ms	
42	ELECTRIC	PLAY	Subcode unacceptable 500ms	
43	ELECTRIC	PLAY	Sound skipped	
				Last address memory operated

*The error code is identical with those in the normal mode.

(4)Indicating an Operation Status During Setup

Status No.	Description	Protection operation
01	Carriage home mode started	None
02	Carriage moving on the internal circumference	10-second time out
03	Carriage moving on the external circumference	10-second time out
11	Setup started	None
12	Spindle turn/Focus search started	None
13	Waiting for focus closing	Failure to focus closing
14	Spindle kicked and focus checked	Out of focus
15	Tracking closed and focus checked	Out of focus
17	Carriage closed and focus checked	Out of focus
18	Lock subcode } Waiting	Failure to lock, Subcode failed to read out of focus
19	End	None

- (5)Example of 7-segment Display.
- (a)SET UP in progress
- TRACK MIN SEC
11 11 11

TRACK
11
MIN SEC
11 11
- While in the TEST MODE, a status number is indicated in TNO, MIN and SEC.
- (b)Operation (PLAY, SEARCH, etc.) in progress perfectly identical with that in the multi mode.
- (c)Protection/Error upon occurrence

ERROR-XX While in the error mode, an error number is displayed in MIN and SEC.

Select the display with the BAND/REL key.

- TRACK MIN SEC
10 40 05

TRACK
10
MIN SEC
40 05
- While in the PLAY MODE, an absolute time is indicated in TNO, MIN and SEC.
- Select the display with the TRACK +/- key.

A4019A

Pin 1: NOISE AMP GAIN

Pin 2: NOISE BYPS 2

Pin 3: NOISE BYPS 1

Pin 4: C.R. ADJ.

Pin 5: GND

Pin 6: HPF 1

Pin 7: HPF 2

Pin 8: GATE TIMER

Pin 9: GATE SENS.

Pin 10: ENVE. GAIN

Pin 11: MULTIPATH DET. C

Pin 12: LOOP FILTER 1

Pin 13: LOOP FILTER 2

Pin 14: STEREO IND.

Pin 15: PILOT FILTER 1

Pin 16: PILOT FILTER 2

Pin 17: 456kHz VCO

Pin 18: PILOT BYPS

Pin 19: FORCED MONO

Pin 20: LCH OUTPUT

Pin 21: RCH OUTPUT

Pin 22: SUB BIAS

Pin 23: SNC, HCC TIME CONST.

Pin 24: SNC OFFSET

Pin 25: SNC, HCC ADJ.

Pin 26: FUZZY OUT

Pin 27: FUZZY OUT

Pin 28: ENVE. DET. OUTPUT

Pin 29: HCC CONST.

Pin 30: MUTING ADJ.

Pin 31: MUTING TIME CONST.

Pin 32: HOLD C

Pin 33: VCC

Pin 34: PNS IN

Pin 35: DET OUT

Pin 36: MAX MUTING QUANT

Pin 37: Q-IN

Pin 38: V REF

Pin 39: IF OUT

Pin 40: AFC

Pin 41: SD SENS.

Pin 42: SD

Pin 43: S. METER

Pin 44: GND (RF)

Pin 45: BYPS 1

Pin 46: BYPS 2

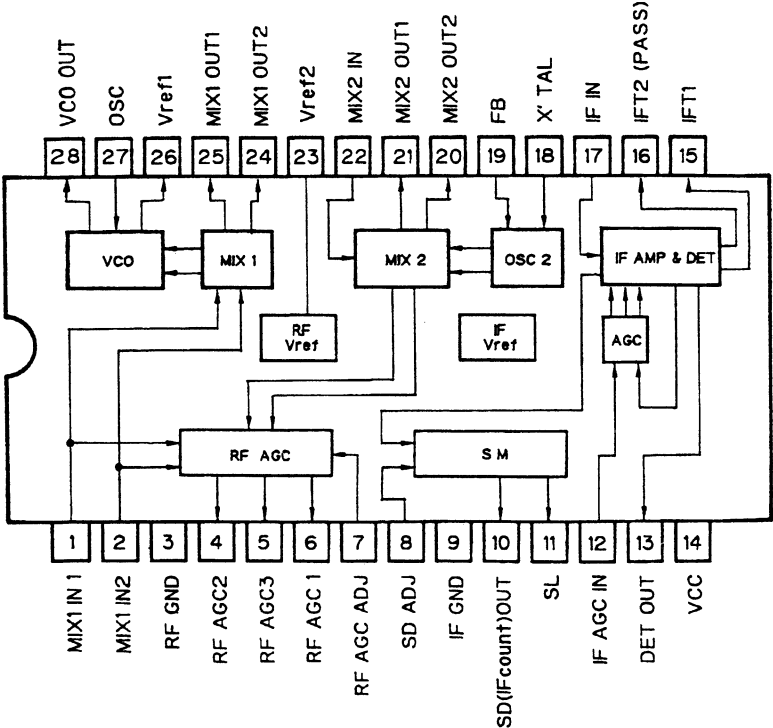
Pin 47: IF IN

Pin 48: VCC (RF)

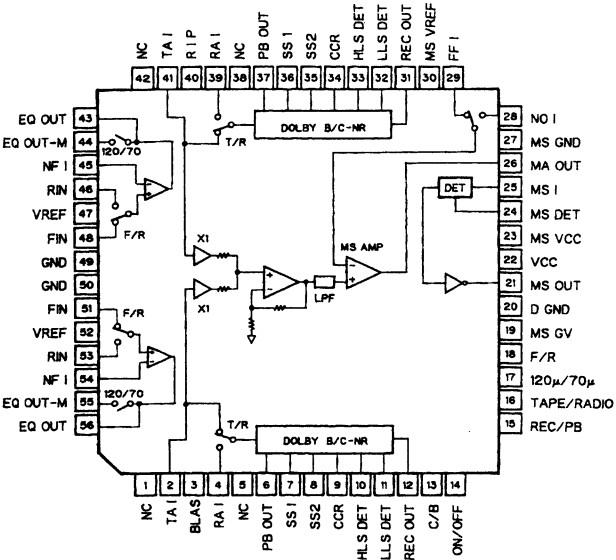
Internal Blocks:

- IF AMP
- AFC
- SD
- SIGNAL METER
- HPF
- AGC
- Q. DET.
- PNS GATE DRIVE
- S. METER NOISE
- MULTI PATH GATE DRIVE
- DELAY
- PILOT CANCEL
- OR
- ENVELOPE DETECTION
- PILOT DET.
- 19kHz Q-S IN
- 456kHz VCO
- FREQUENCY DIVIDER
- PILOT LEVEL DET.
- Q-S IN DET.
- COMPARE
- HCC
- Muting CONTROL
- BLEND CONTROL DRIVE
- FUZZY SYSTEM
- TIME CONSTANT VARIABLE CIRCUIT
- SNC
- x38kHz

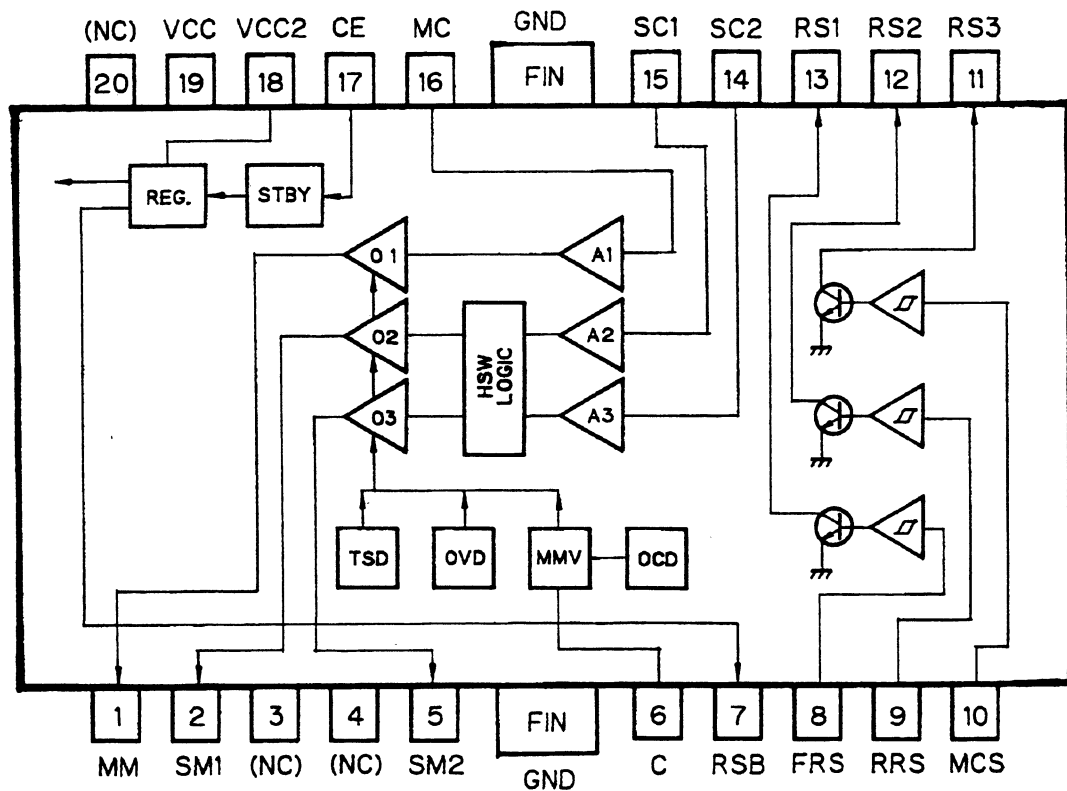
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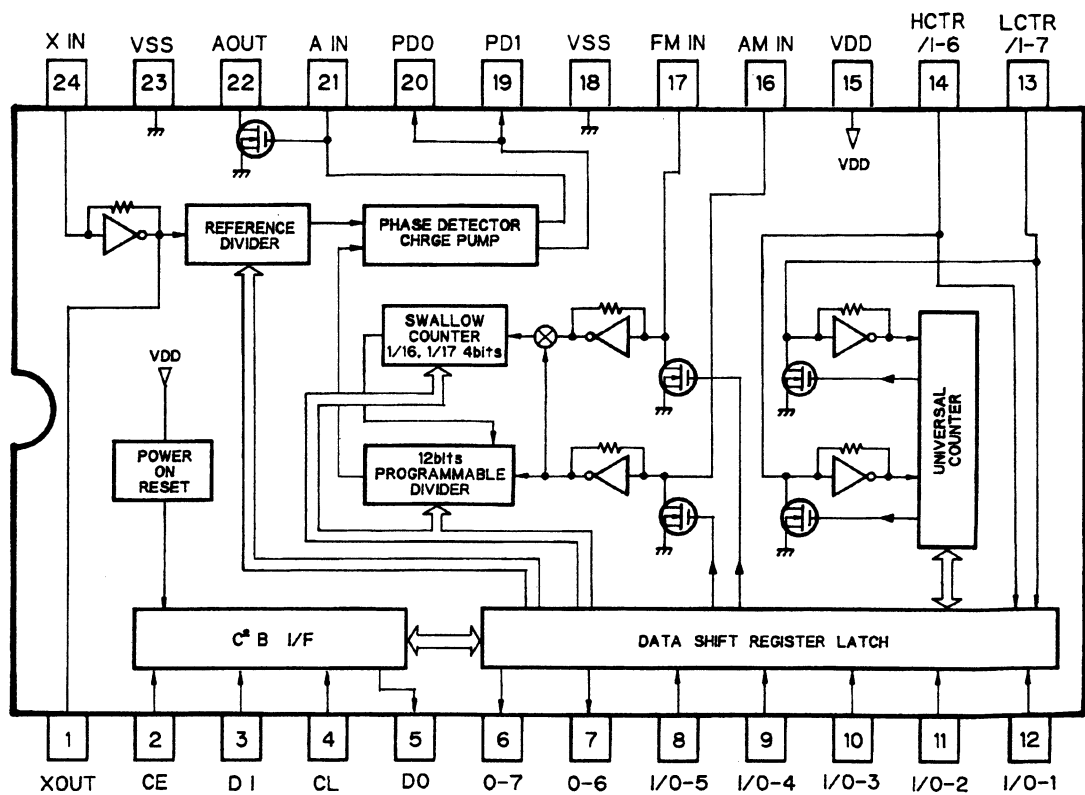
HA12173



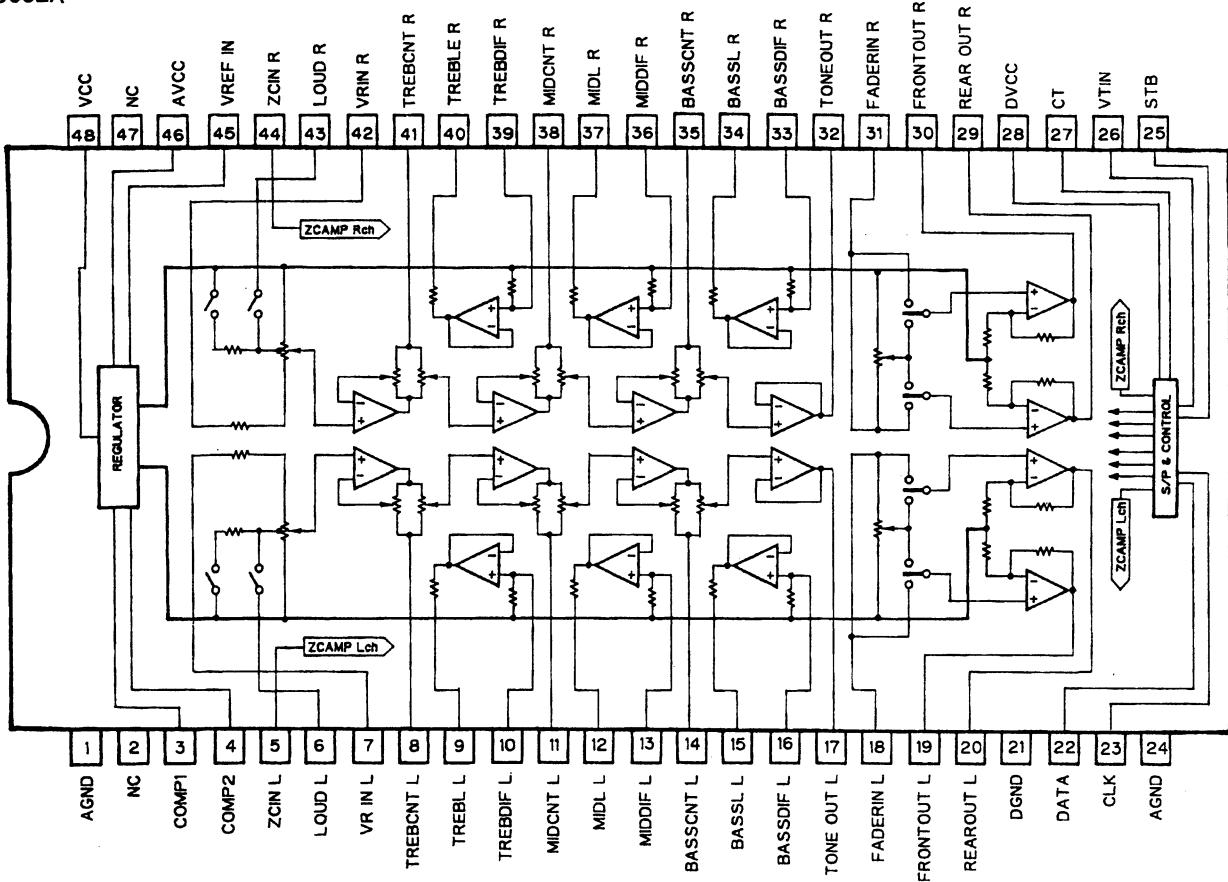
PA2020A



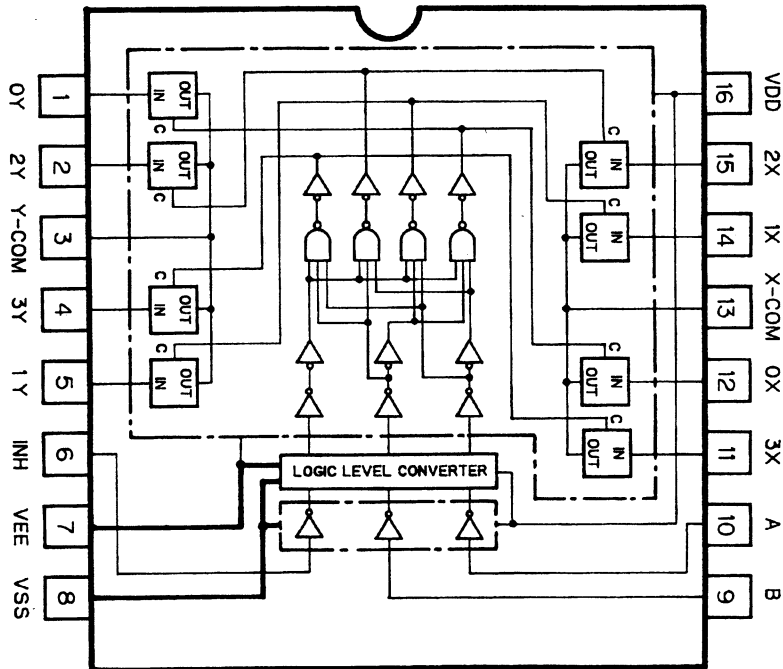
LC72140M



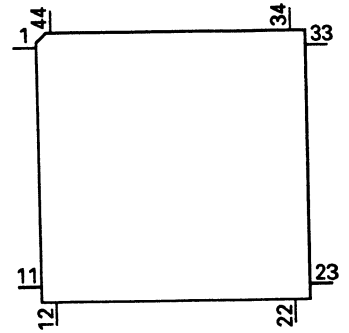
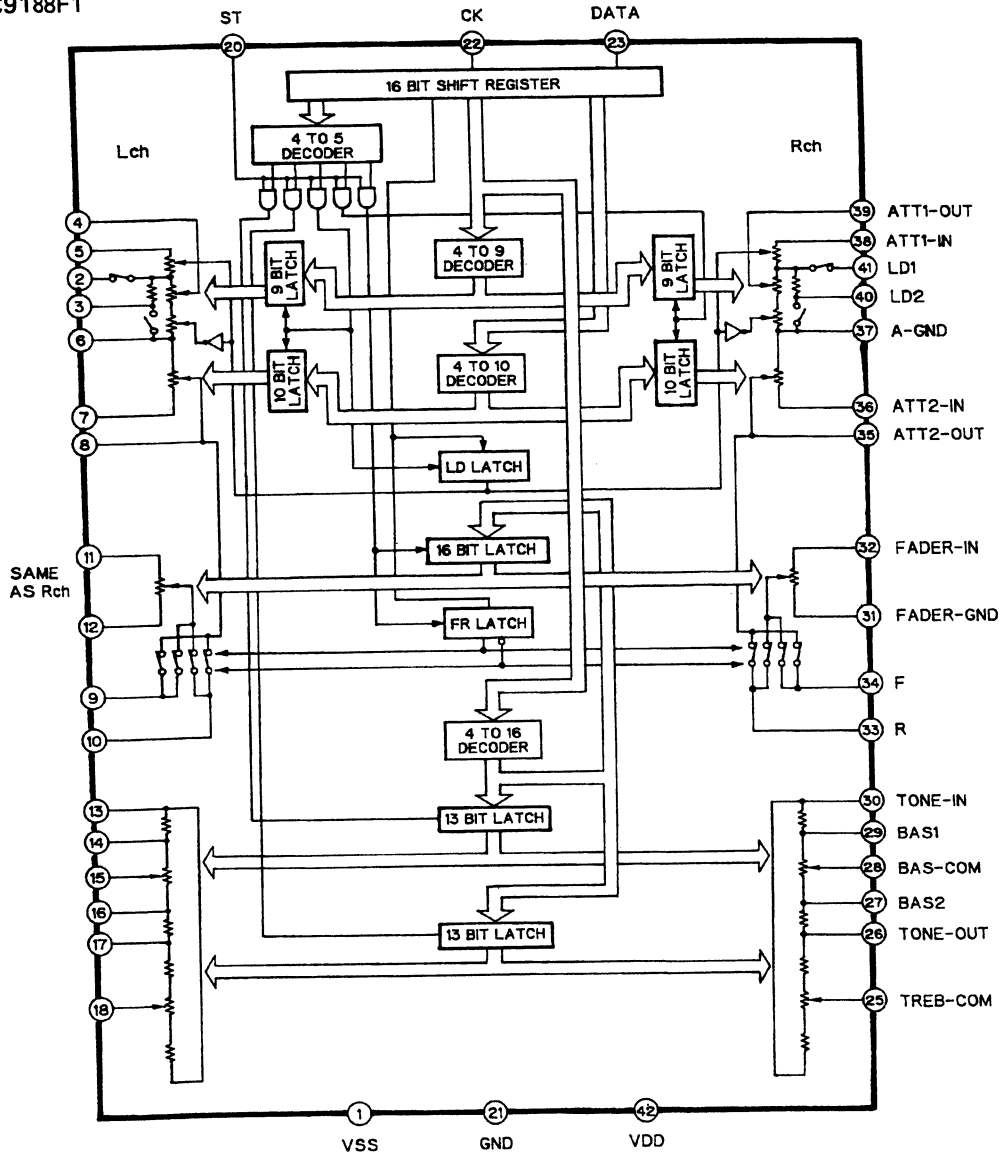
PMJ002A



TC4052BF

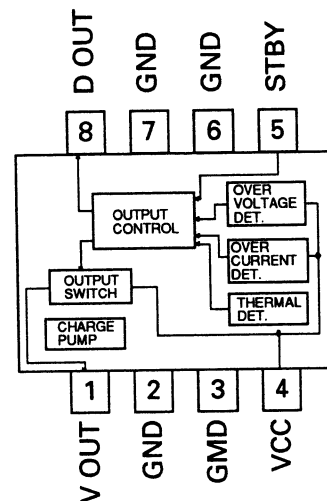
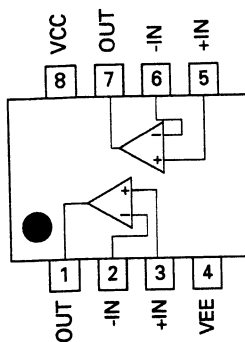


TC9188F1

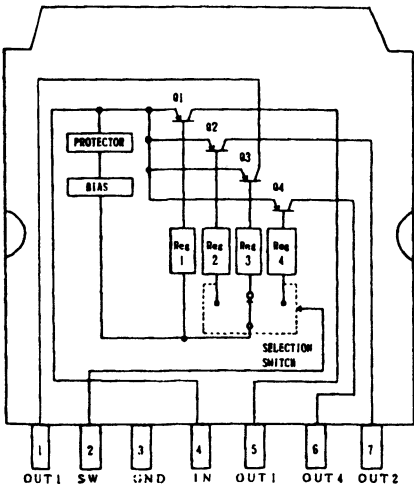


NJM4558M, NJM2082M, NJM2068MD1

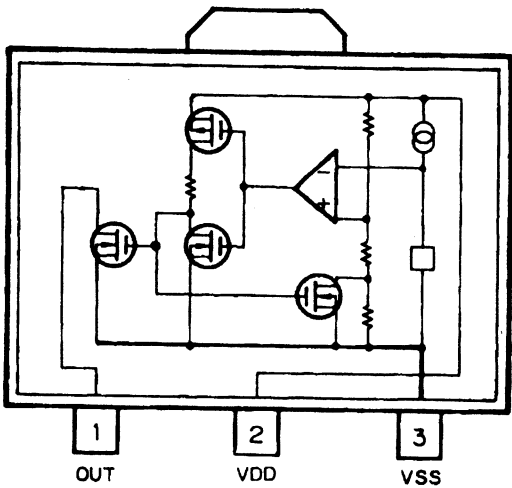
PML001A



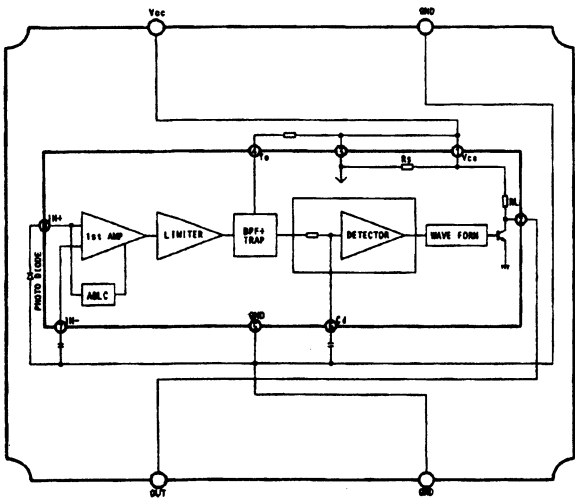
TA8214K



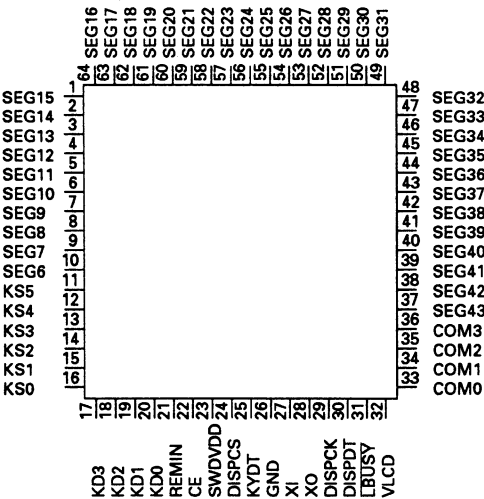
S-80734AN-DY



RS-20



PDR001A



● Pin Functions(PD4411A)

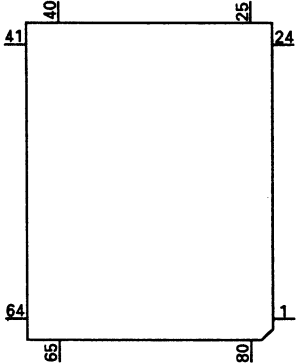
Pin No.	Pin Name	I/O	Output Format	Function and Operation
1	SL	I		SD level input
2	ADV			Analog input reference power
3	VDD1			Device power supply terminal
4	VDD2			Device power supply terminal
5	ADPW	O	C	Control output for analog input reference power
6	RDSSEN	O	C	Enable output for RDS IC
7	RDSSEL	O	C	Select output for RDS IC
8	RDSRST	O	C	Reset output for RDS IC
9	TUNPW	O	C	PLL power supply control output
10	PCK	O	C	Serial clock output for PLL IC
11	PDO	O	C	Data output for PLL IC
12	PCE	O	C	Chip enable output for PLL IC
13	SC2	O	C	Cassette mechanism sub motor control output
14	SC1	O	C	Cassette mechanism sub motor control output
15	CM	O	C	Cassette mechanism capstan motor control output
16	STBY	O	C	Cassette mechanism driver stand-by output
17	RDSDTI	I		Serial input for RDS IC
18	RDSDTO	O	C	Serial output for RDS IC
19	RDSCK	O	C	Serial clock for RDS IC
20	PEE	O	C	Beep tone output
21	LCS	O	C	Chip select output for LCD driver
22	LDT	O	C	Data output for LCD driver
23	LCK	O	C	Clock output for LCD driver
24	SWVDD	O	C	Grille power supply control output
25	F/R	O	C	Cassette mechanism head forward/reverse select output
26	PLY	O	C	Cassette mechanism MS gain select output
27	B/C	O	C	Cassette mechanism dolby B/C select input
28	NR	O	C	Cassette mechanism noise reduction output
29	ILM	I		External illumination input
30	MS	I		Cassette mechanism MS sense input
31	MTL	I		Cassette mechanism tape select input
32	LD	I		Cassette mechanism loading sense input
33	GND			GND
34	MONO	O	NM	Forced mono output
35	DMUTE	O	NM	Deck intercept mute output
36	TMUTE	O	NM	Tuner mute output
37	CDMUTE	O	C	CD mute output
38	SYSPW	O	C	System power supply control
39	MUTE	O	C	Mute output
40	BRST	O	C	P-Bus communication reset output
41	BRXEN	I/O	C	Bus communication reception enable input pin
42	EVCK	O	C	Electric volume serial clock output
43	TP	O	C	Clock adjustment pin
44	EVDT	O	C	Electric volume serial data output
45	EVST	O	C	Electric volume strobe output
46	DSSENS	I		Grille detach sense
47	ASSENS	I		ACC power sense input pin
48	BSSENS	I		Back up power sense input pin
49	REMIN	I		Remote control pulse input
50	BSRQ	I		P-BUS serial pole request input
51	BSIO	I/O	C	P-BUS serial data input/output
52	BSCK	I/O	C	Bus serial clock input/output
53	TOSC	I		Pull down
54	GND			GND
55	XT1			Not used
56	XT2			Not used
57	GND			GND
58	X1			Not used
59	X2			Not used
60	RESET	I		Reset input
61	EJCT	I		Eject key input

Pin No.	Pin Name	I/O	Output Format	Function and Operation
62	POS	I		Cassette mechanism position sense input
63	RES	I		Cassette mechanism reverse end sense input
64	NES	I		Cassette mechanism forward end sense input
65	SUB0	O	NM	Sub woofer select
66	SUB1	I	NM	Sub woofer select
67	DILM	O	NM	Illumination select output
68	ILMPW	O	NM	Illumination power supply control output
69	TEL	I		TEL mute input
70	TEST			Test terminal
70	CSENS	I		Flap close sense
72	LBUSY	I		Busy input for LCD driver
73	AGND			Analog circuit GND
74	PDI	I		Data input for PLL IC
75	RDSRDY	I		Ready input for RDS IC
76	SD	I		SD input for tuner
77	GND			GND
78	SEL1	I		Destination sense
79	SEL2	I		Destination sense
80	SEL3	I		Destination sense

Output Format	Meaning
C	CMOS output
NM	Middle resistivity N channel open drain

IC's marked by* are MOS type.
Be careful in handing them because they are very liable to be damaged by electrostatic induction.

*PD4411A



●FM Front End (CWB1065)

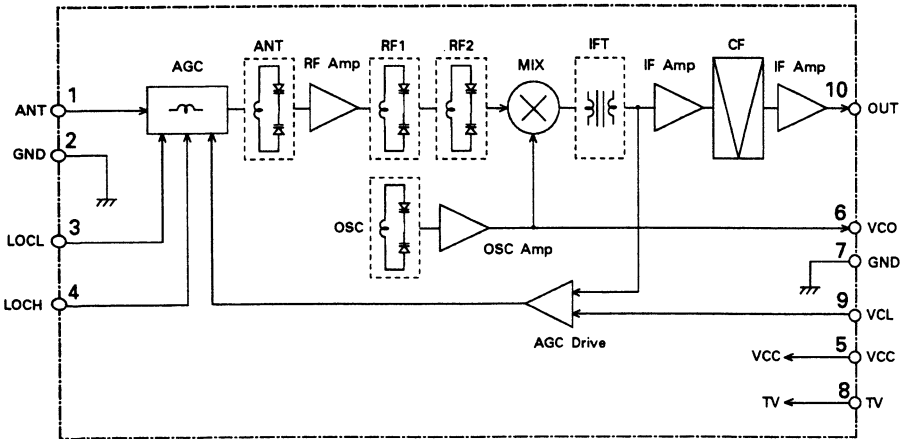
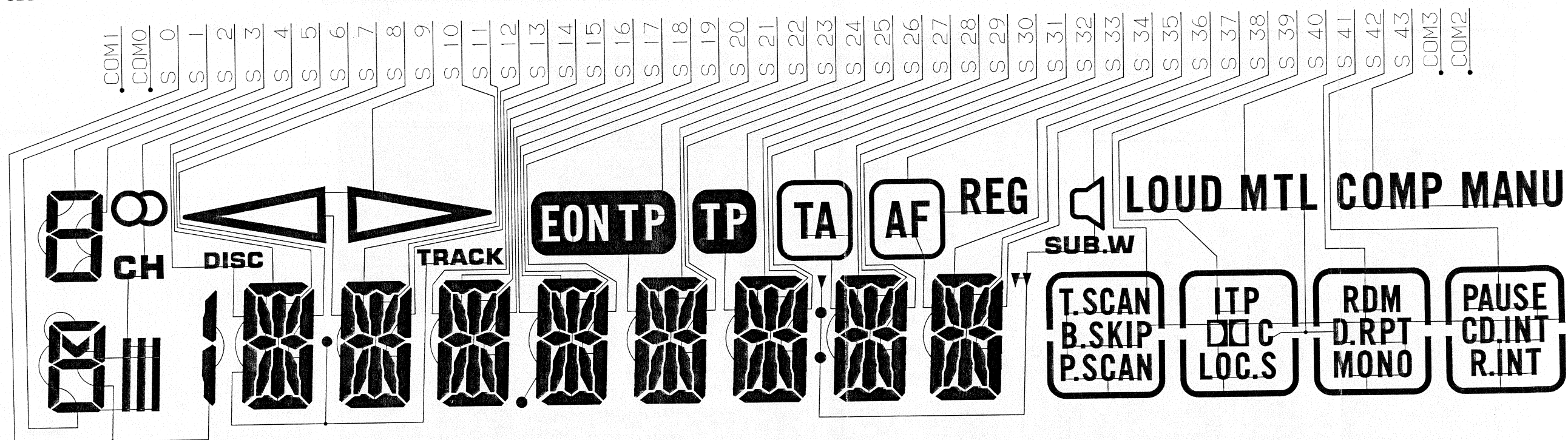


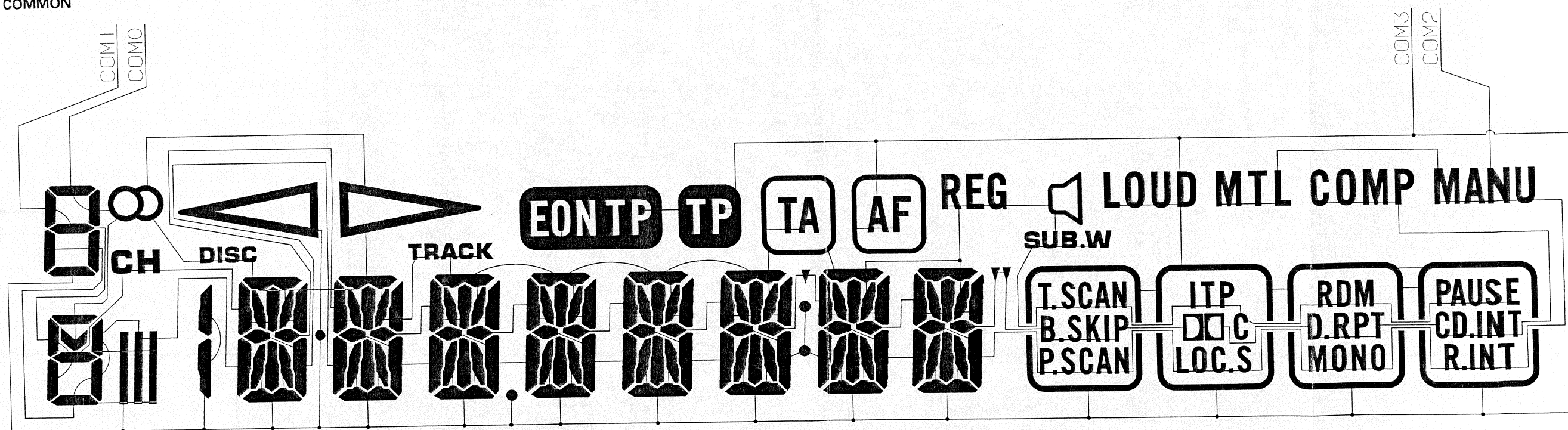
Fig. 22

●LCD (CAW1192)

SEGMENT



COMMON



12. CONNECTION DIAGRAM (KEH-M780/US, KEH-M8550/ES)

A

B

C

D

A

B

C

D

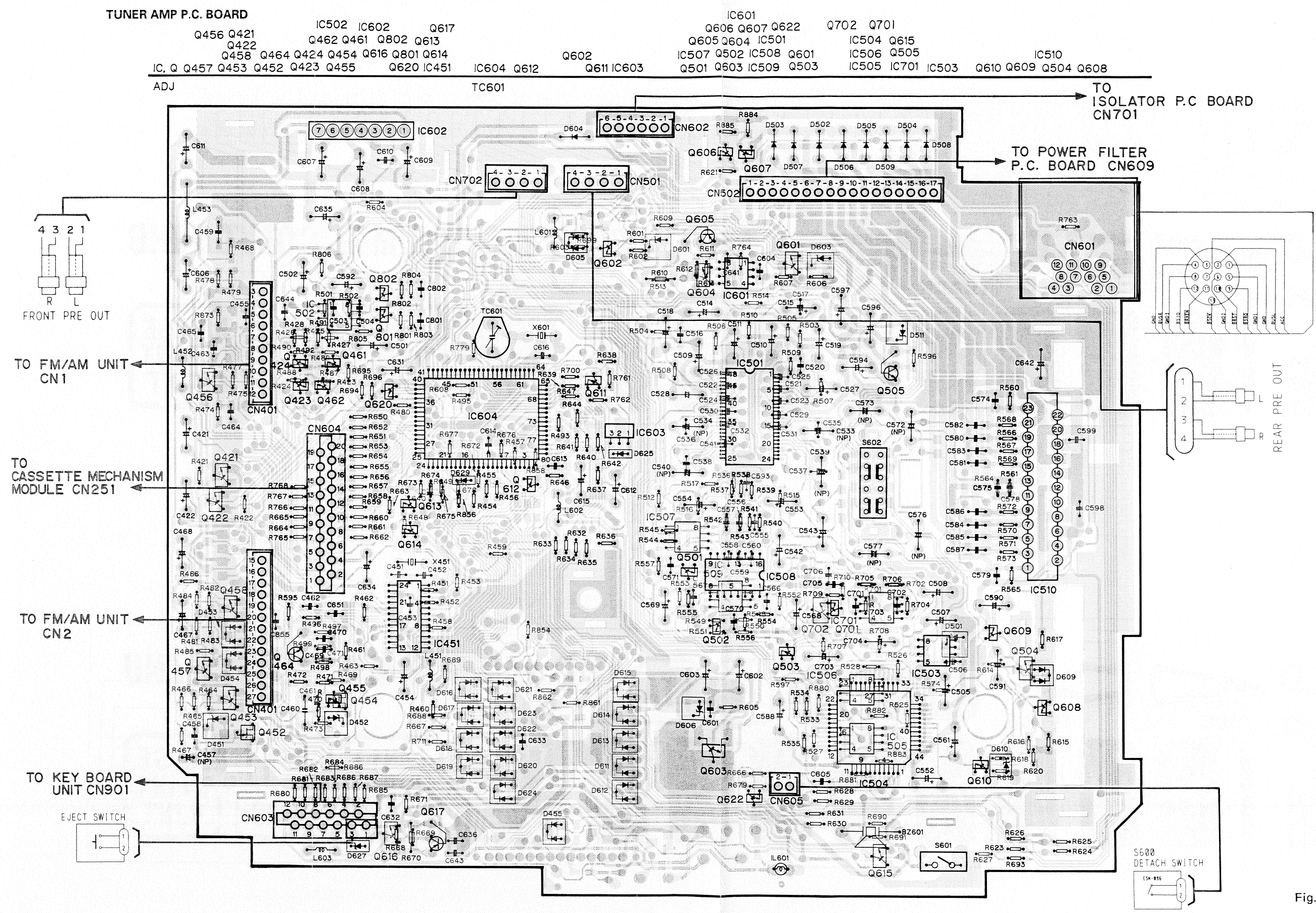
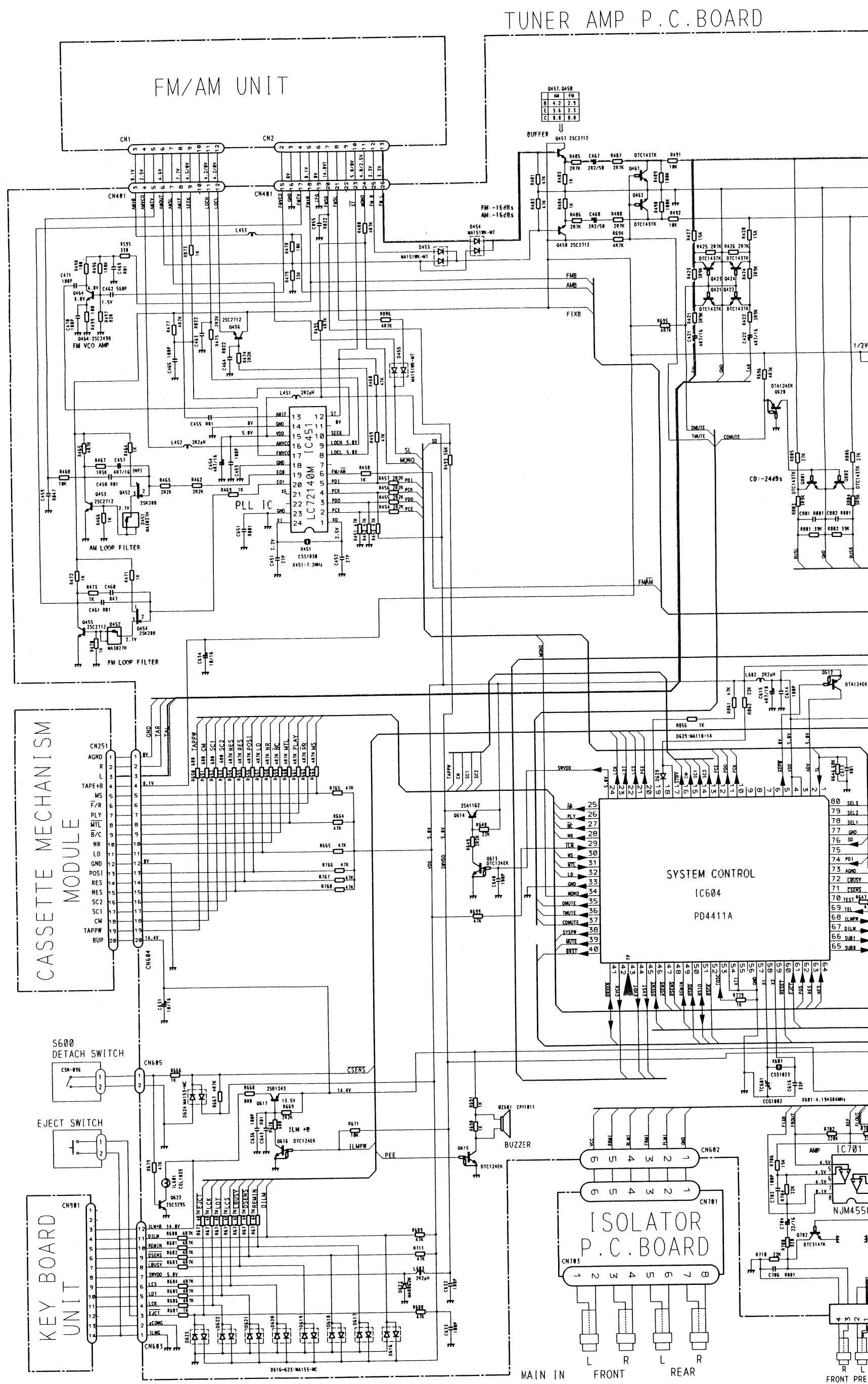
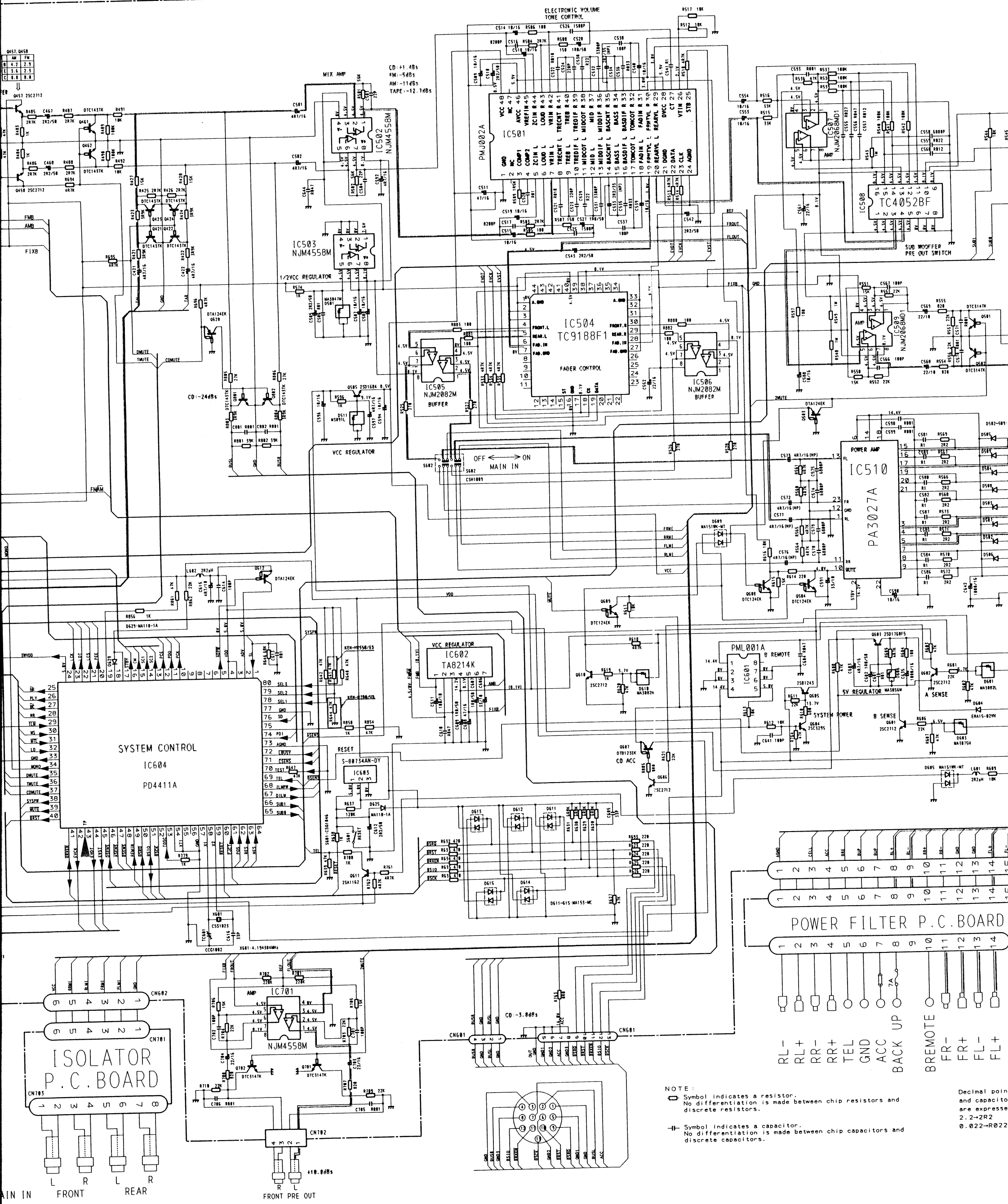


Fig. 24

13. SCHEMATIC CIRCUIT DIAGRAM (KEH-M780/US, KEH-M8550/ES)





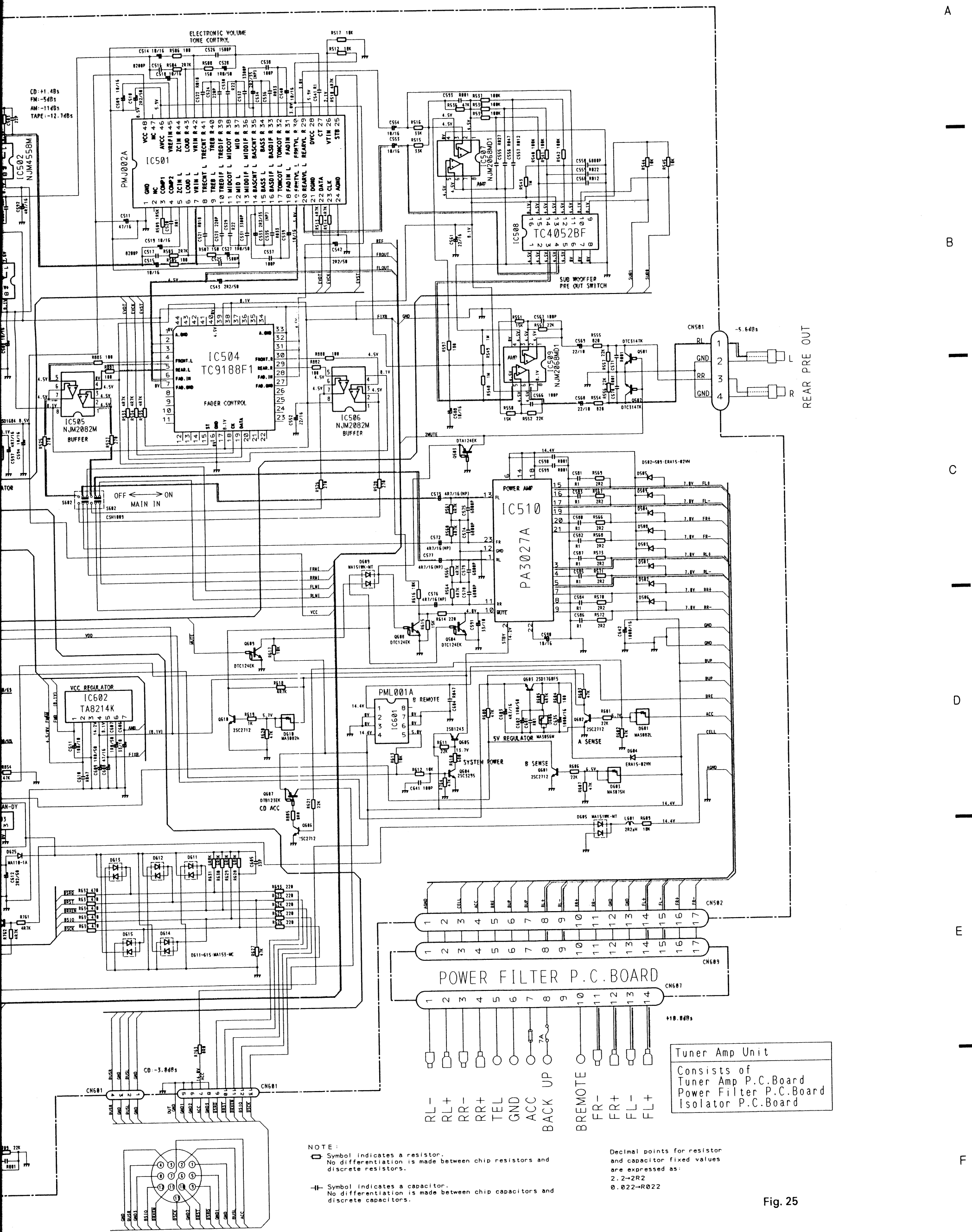
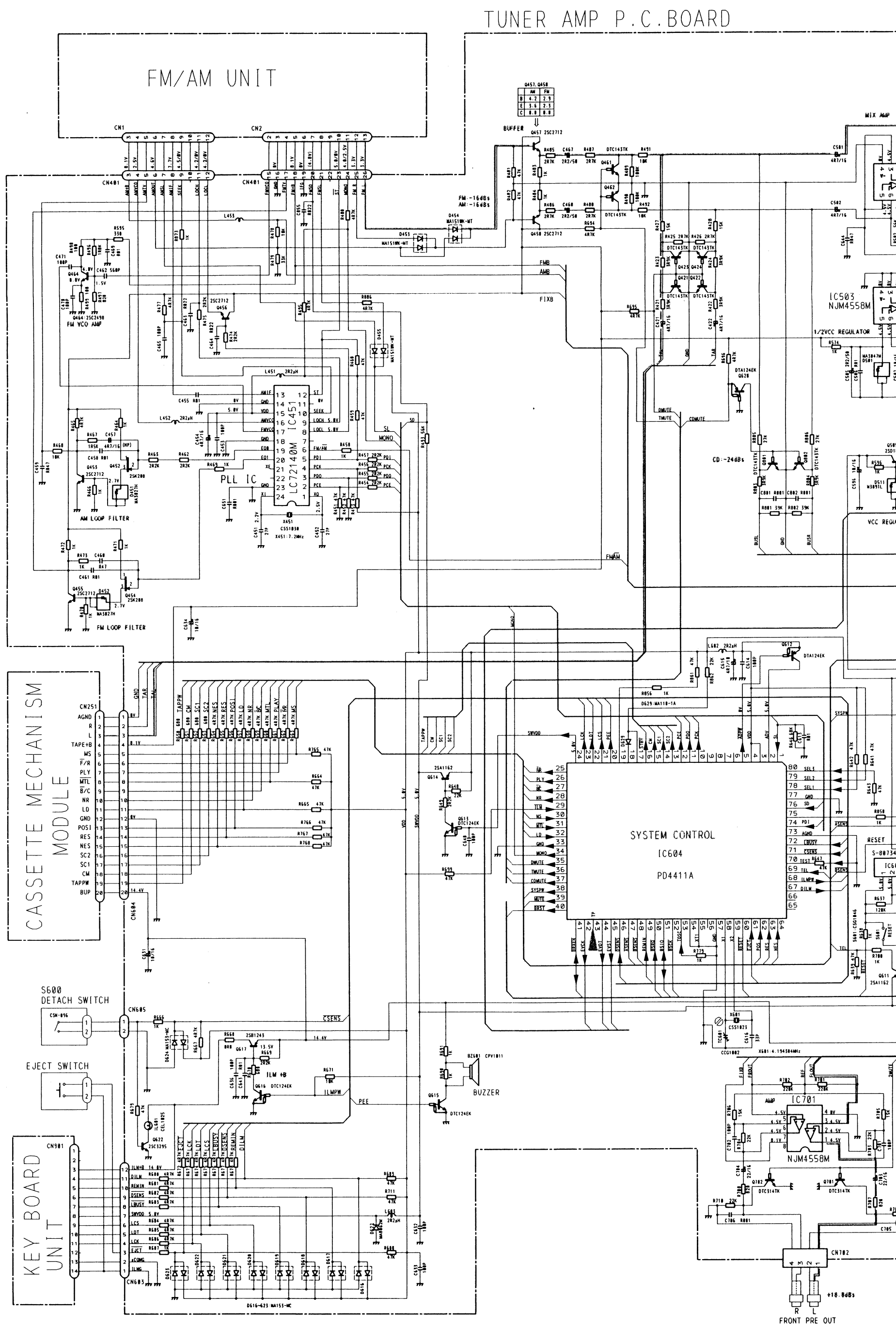
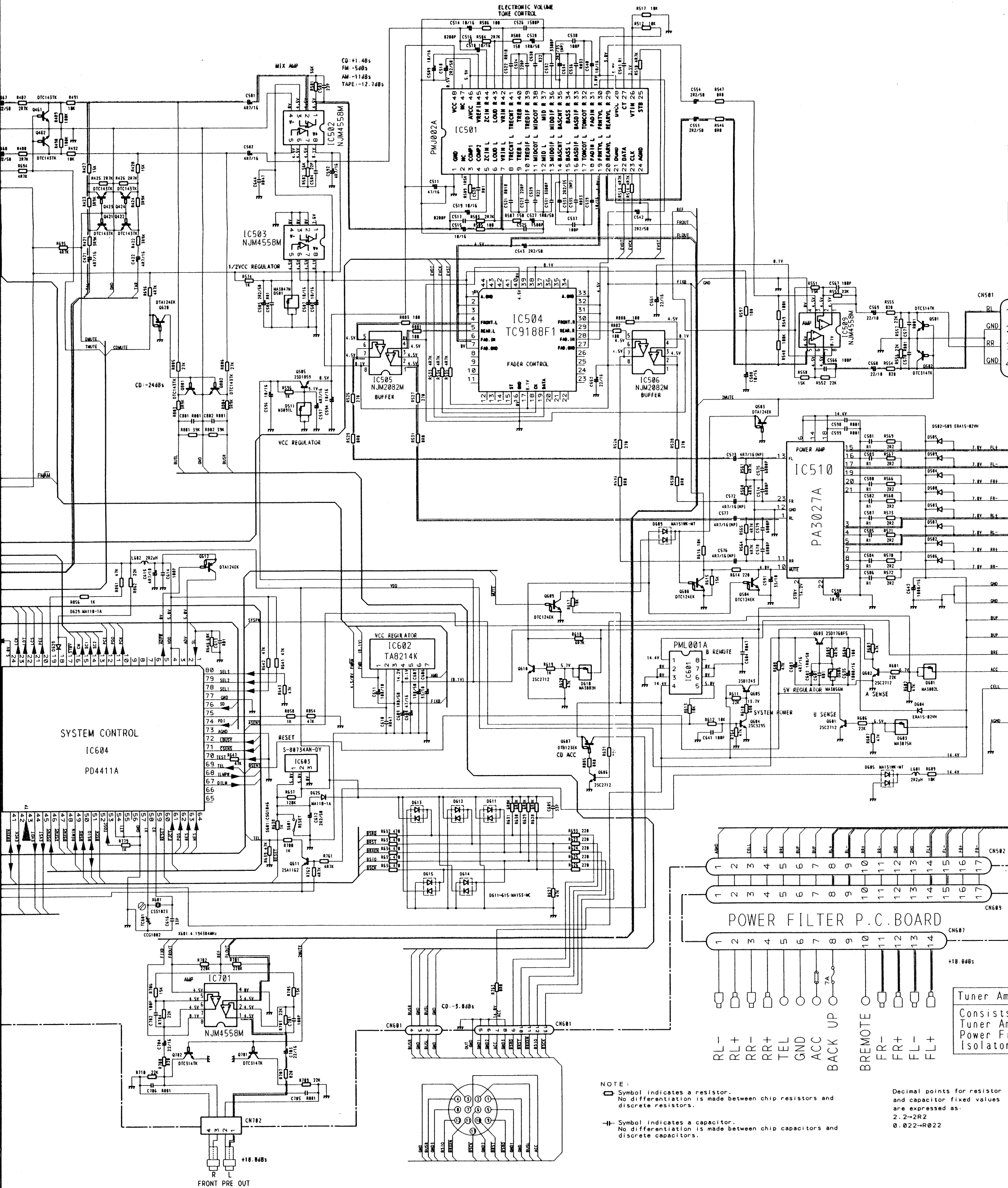


Fig. 25

14. SCHEMATIC CIRCUIT DIAGRAM (KEH-M8500/US)



AMP P.C. BOARD



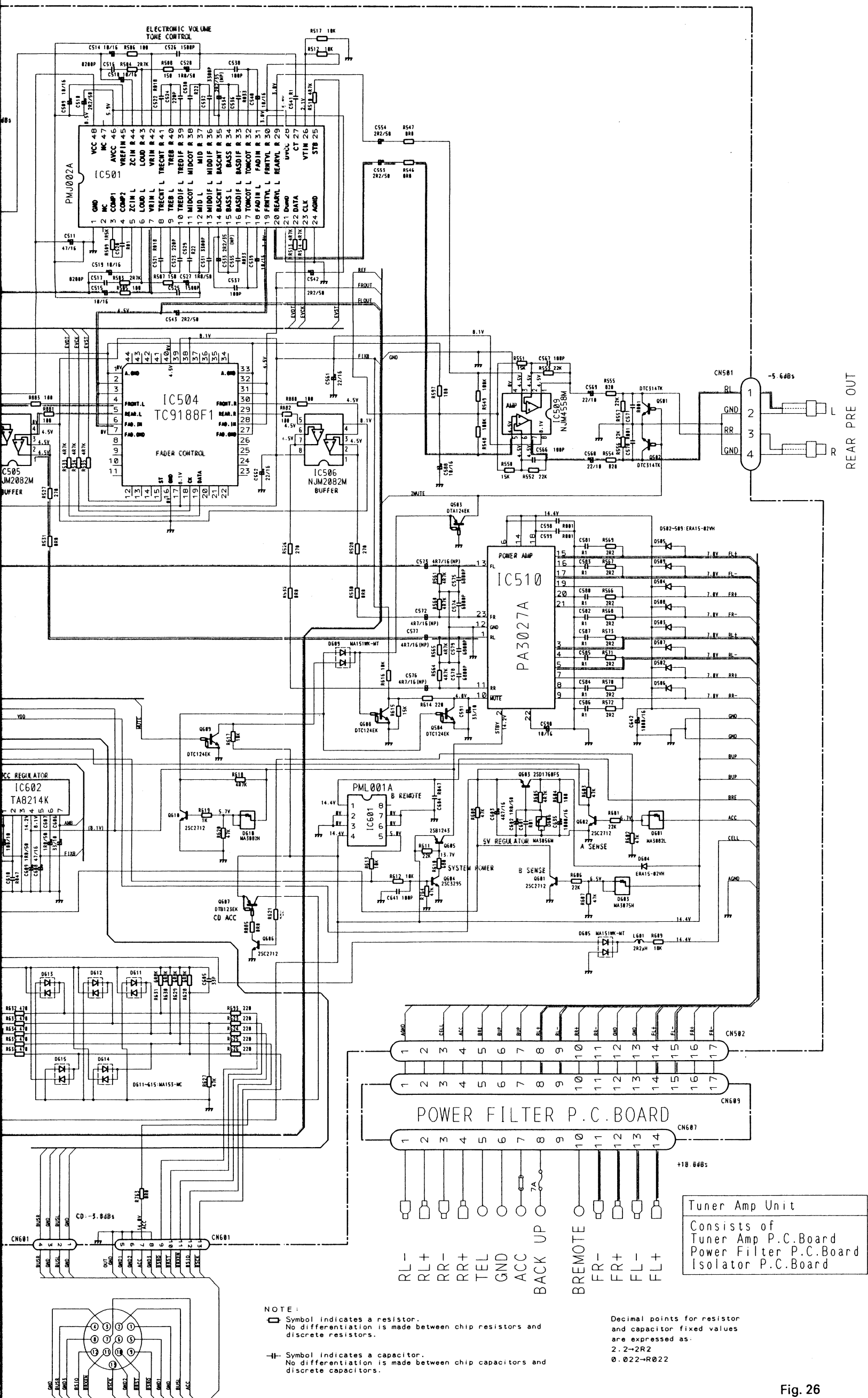


Fig. 26

15. CONNECTION DIAGRAM (KEH-M8500/US)

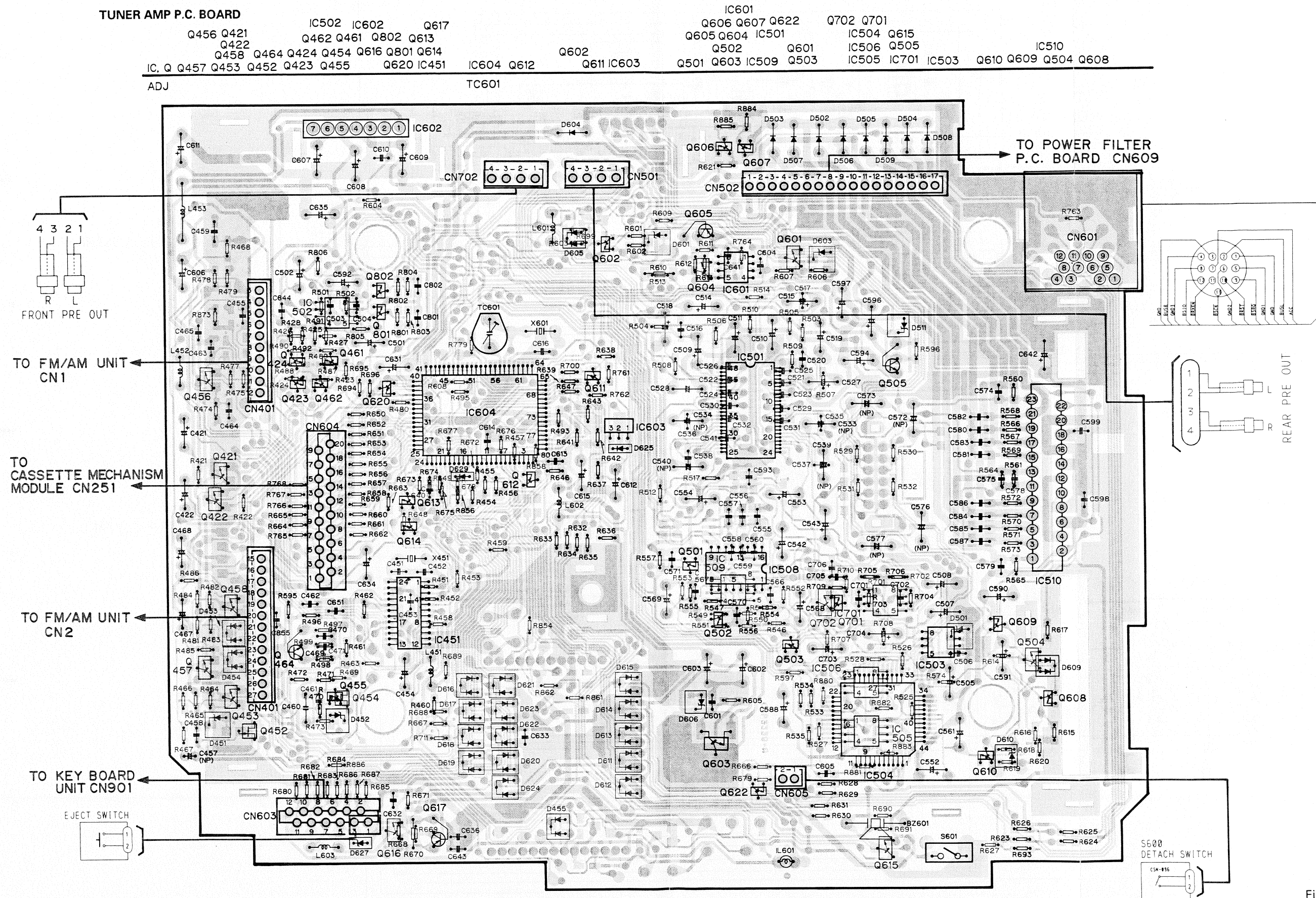


Fig. 27

16. CIRCUIT DIAGRAM AND PATTERN

16.1 FM/AM UNIT

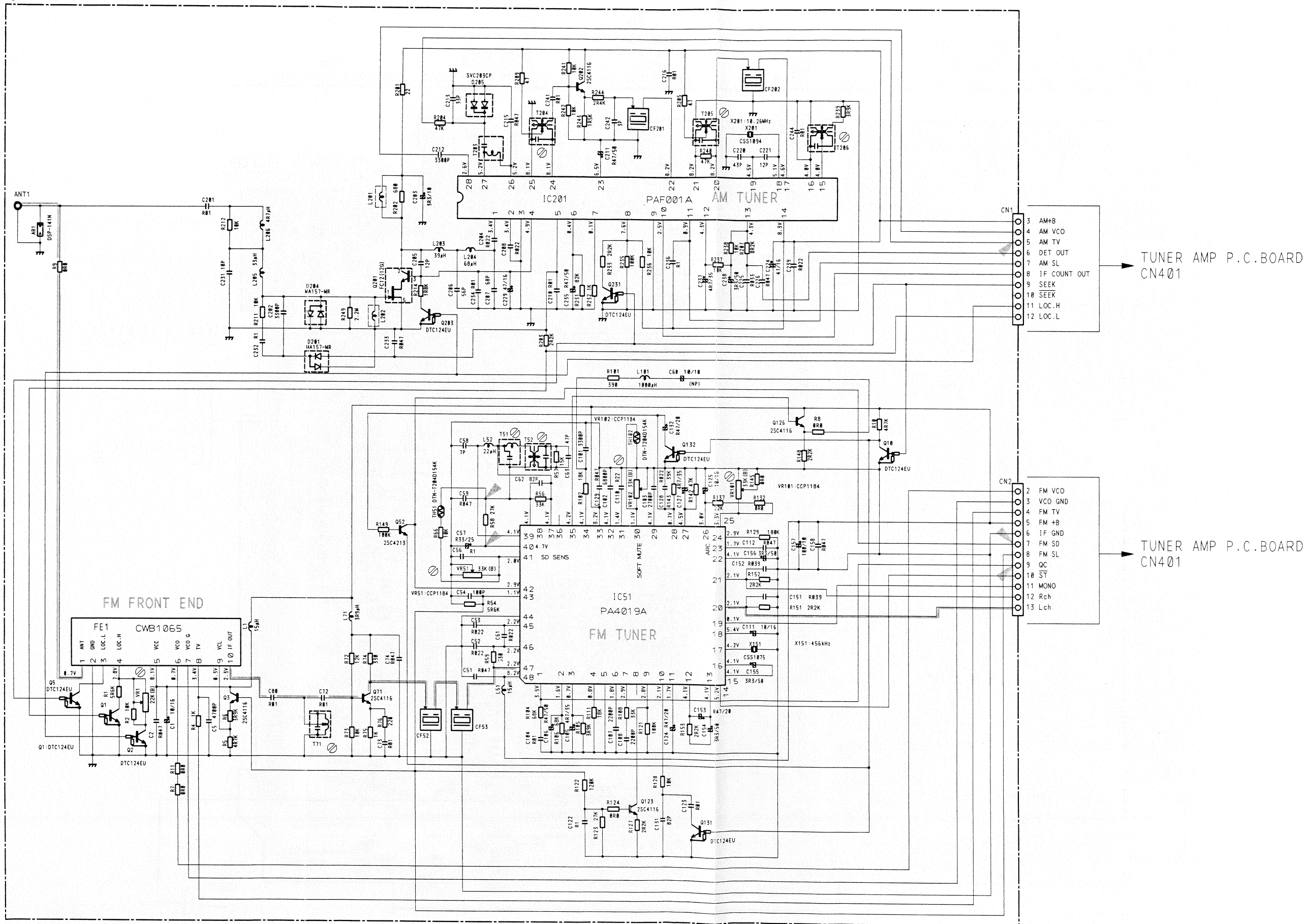


Fig. 28

FM/AM UNIT

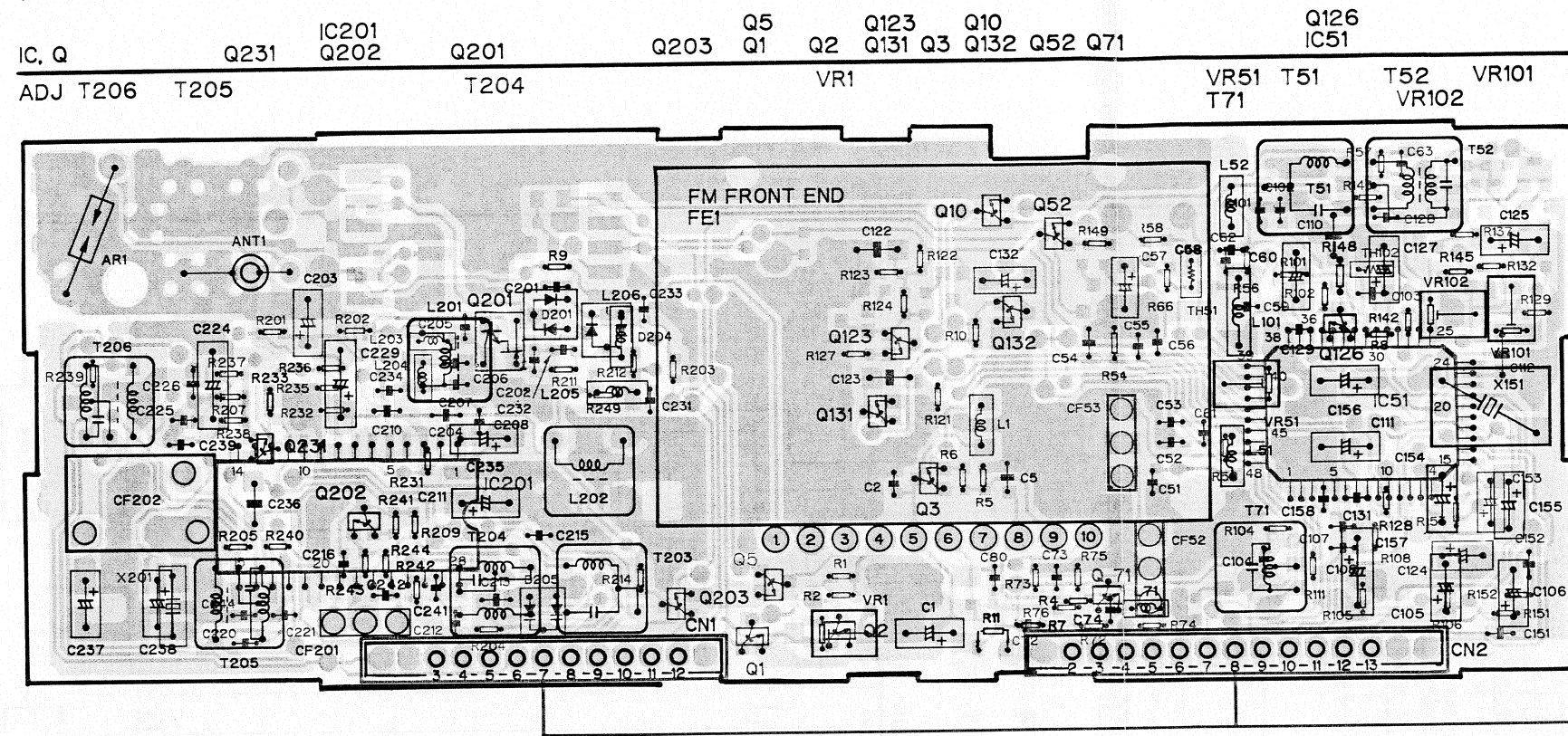


Fig. 29

16.2 POWER FILTER P.C. BOARD

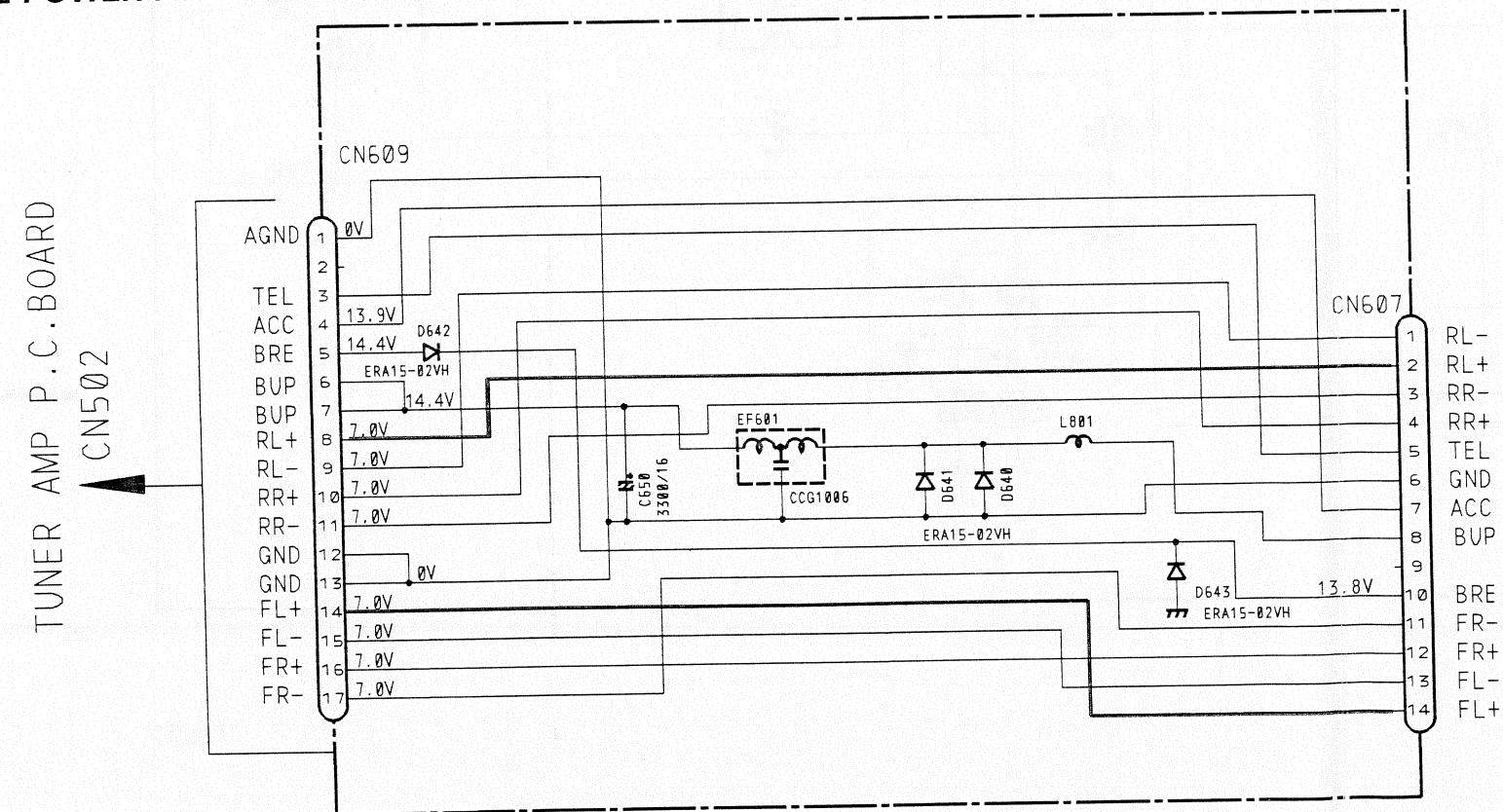


Fig. 30-1

POWER FILTER P.C. BOARD

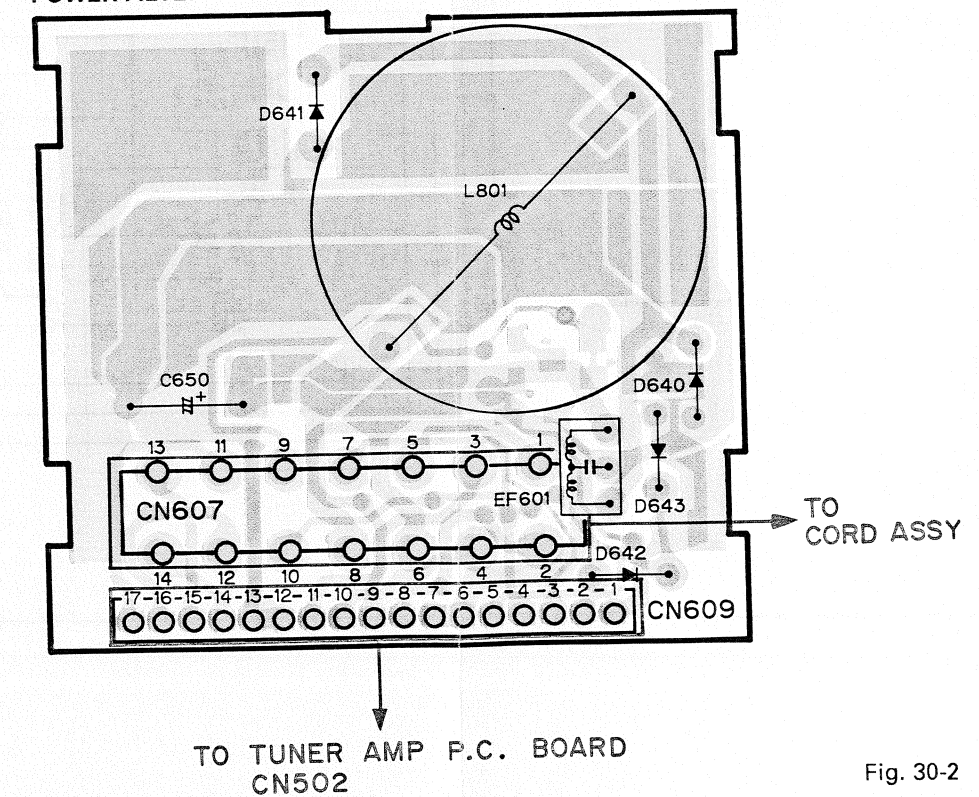


Fig. 30-2

FM/AM UNIT

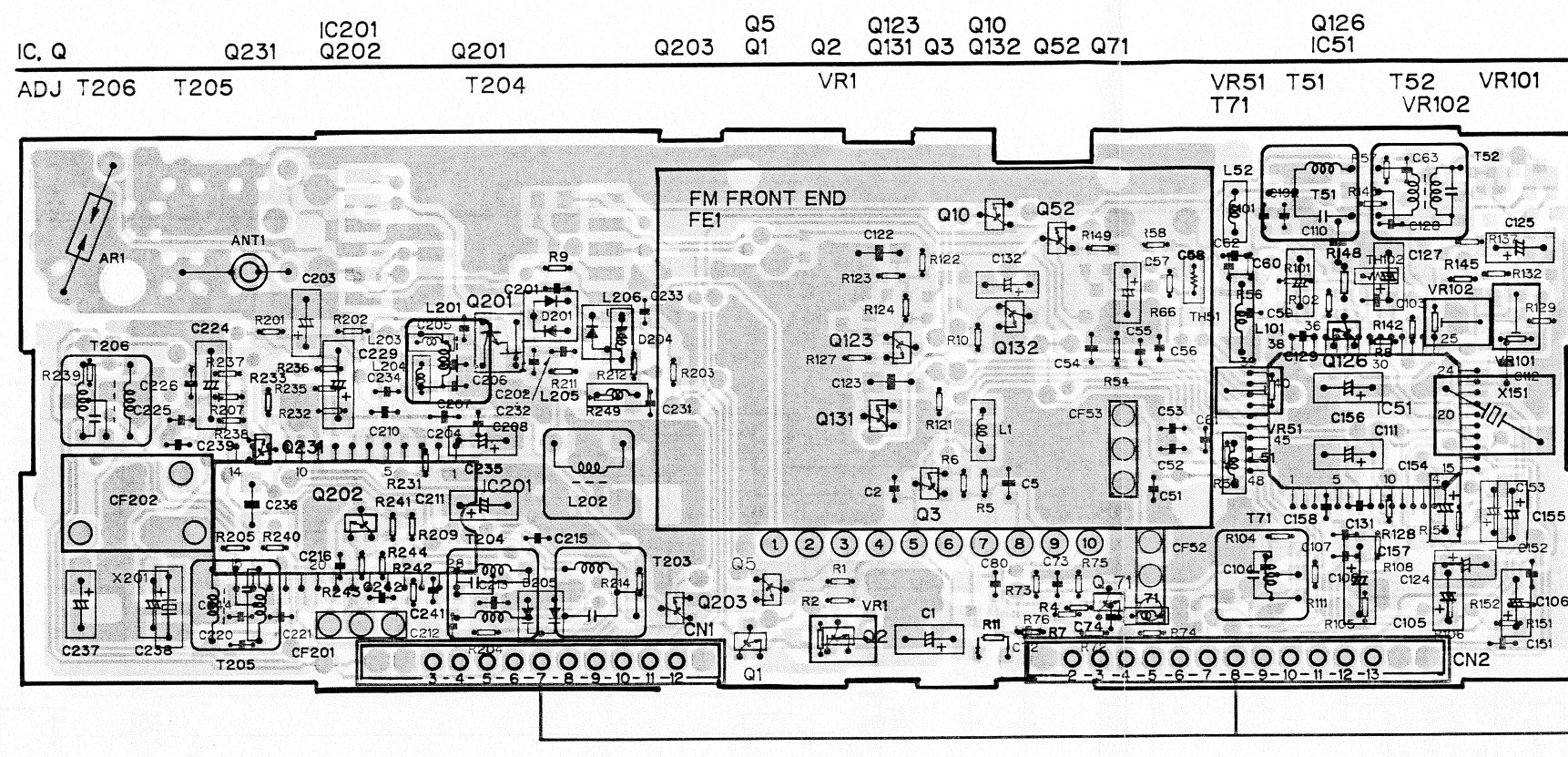
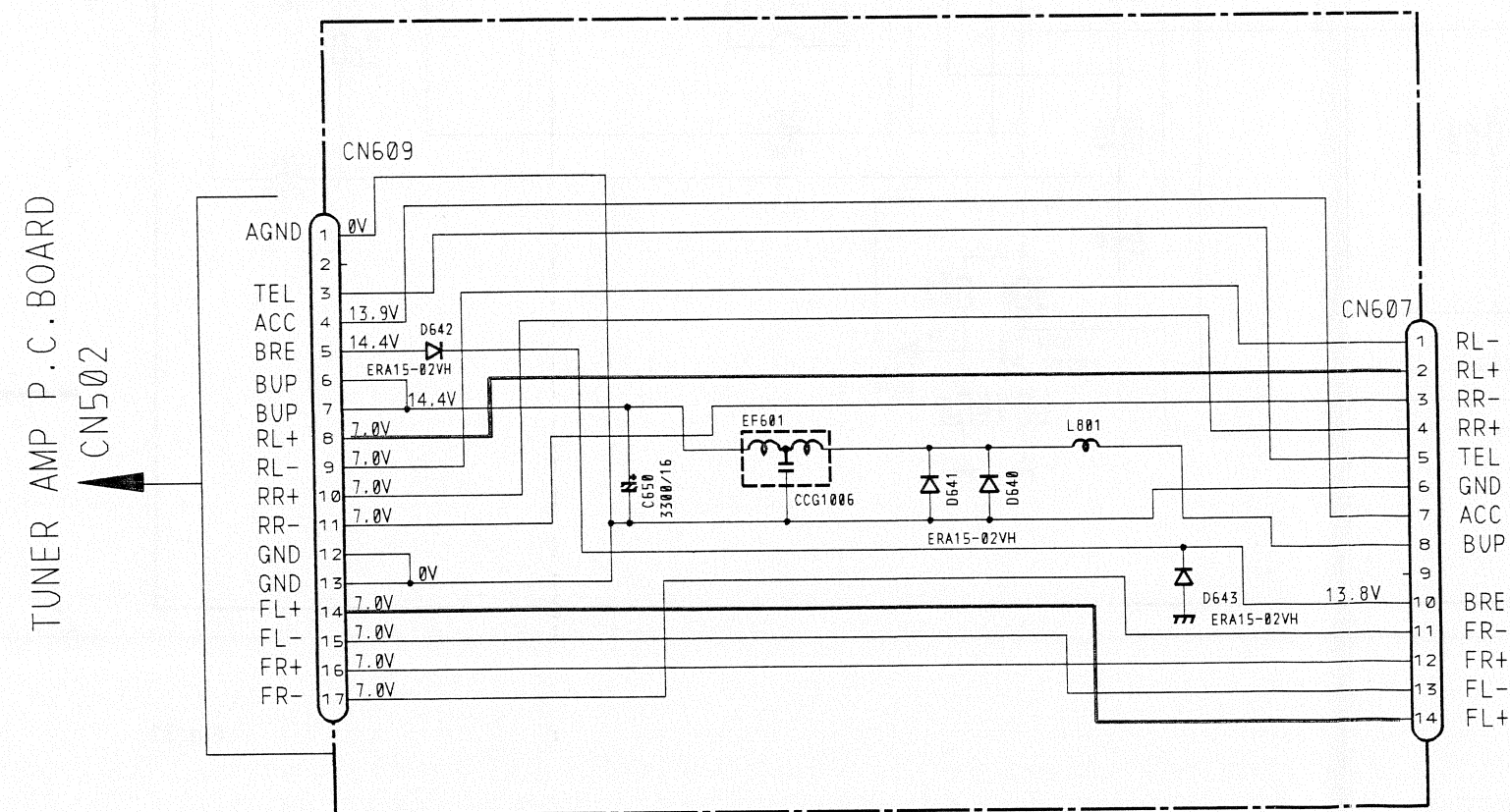
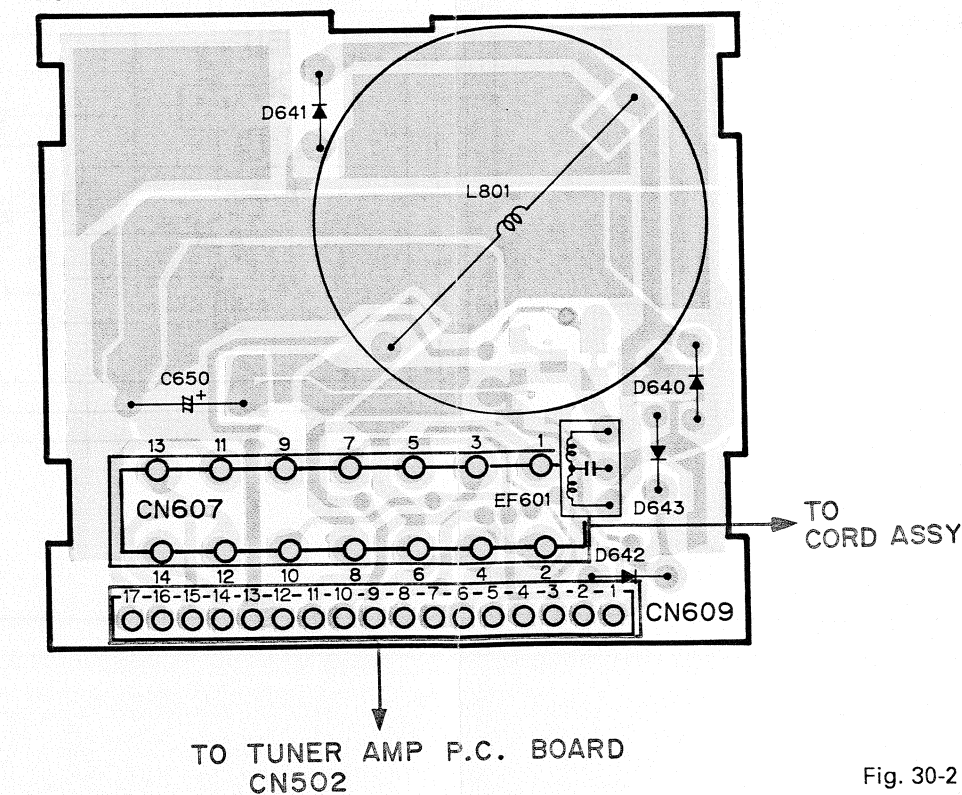


Fig. 29

16.2 POWER FILTER P.C. BOARD



POWER FILTER P.C. BOARD



16.3 ISOLATOR P.C. BOARD (KEH-M780/US, KEH-M8550/ES)

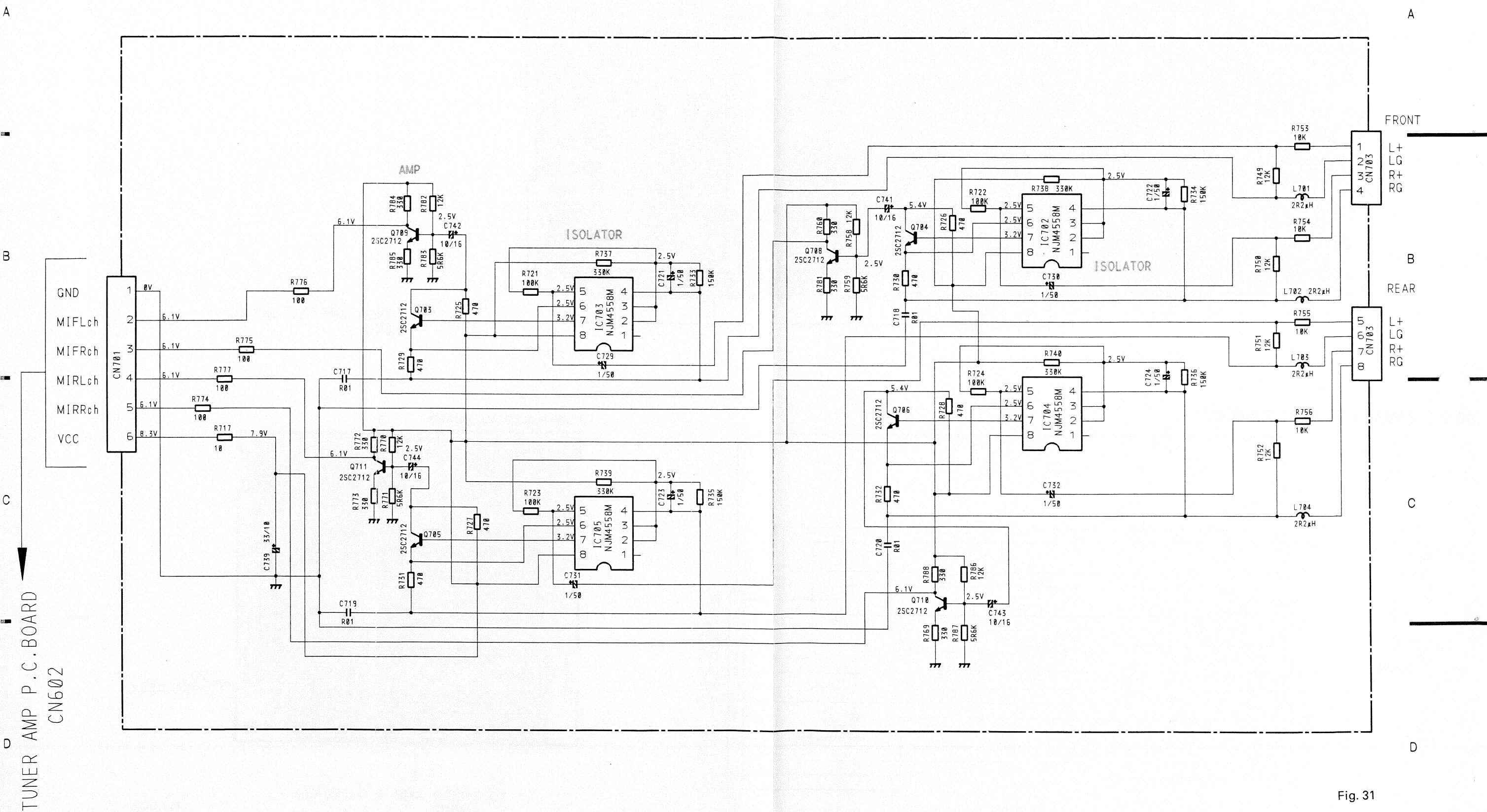


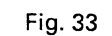
Fig. 31

A

B

C

D



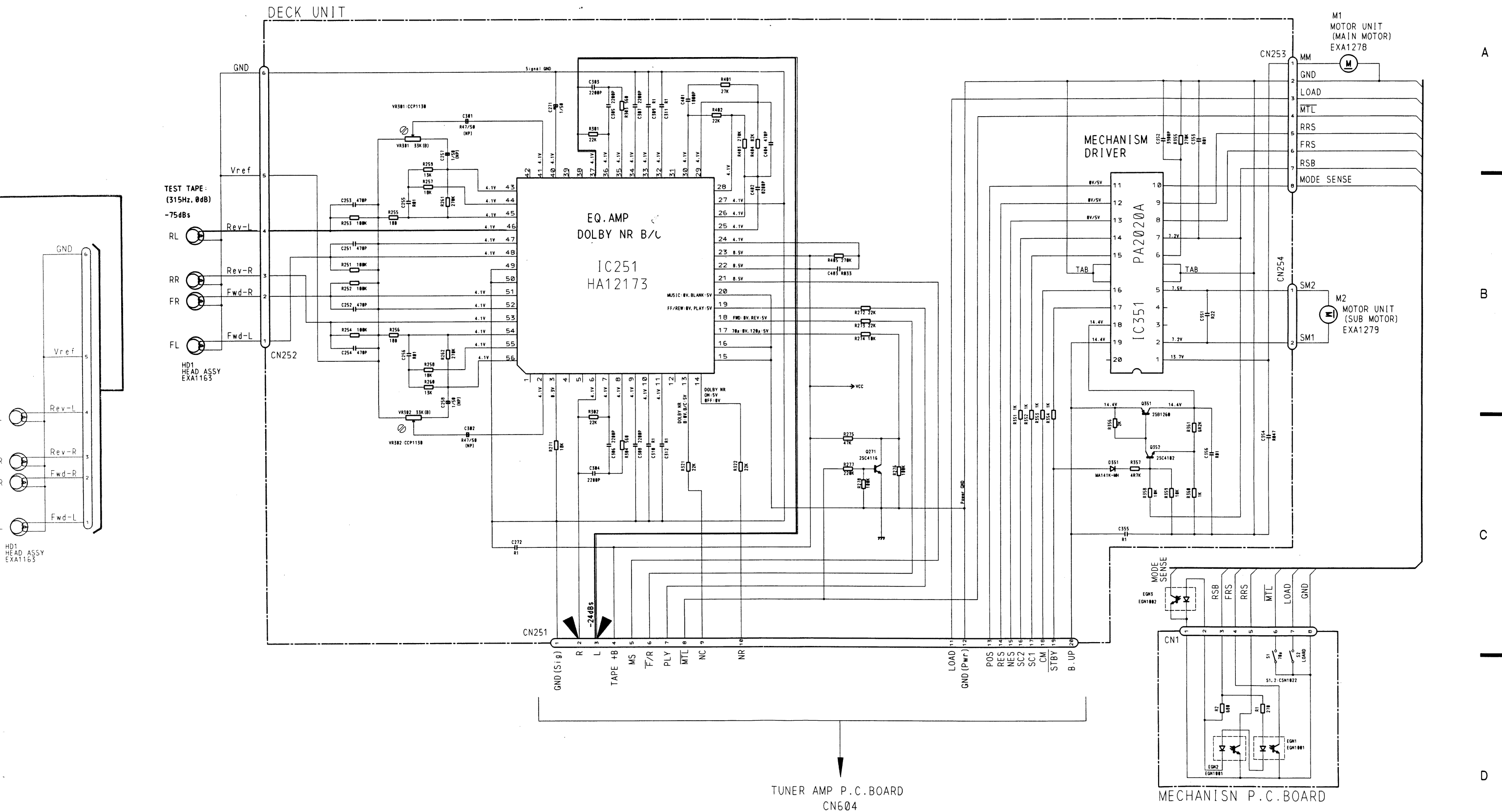
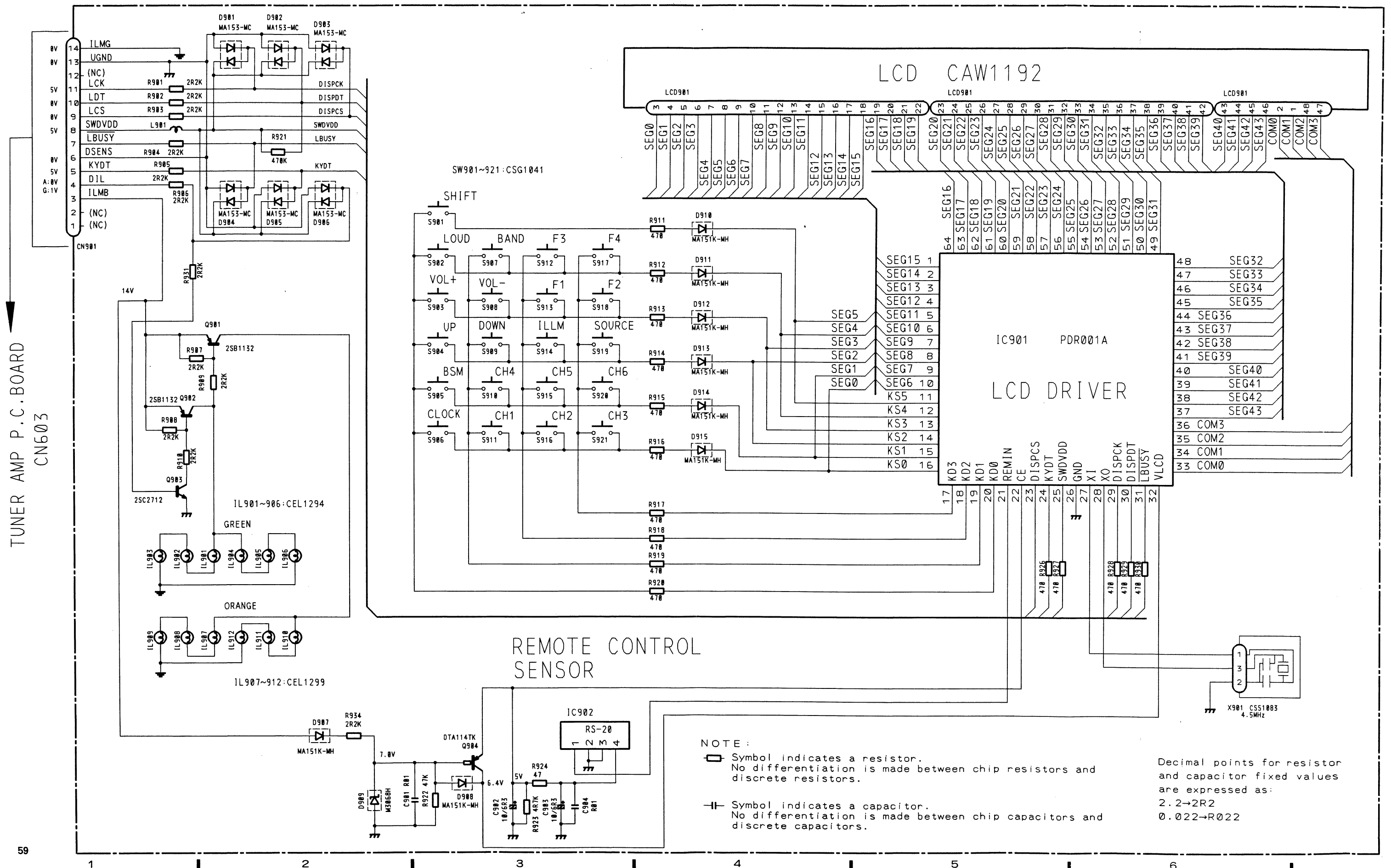
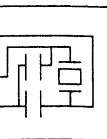
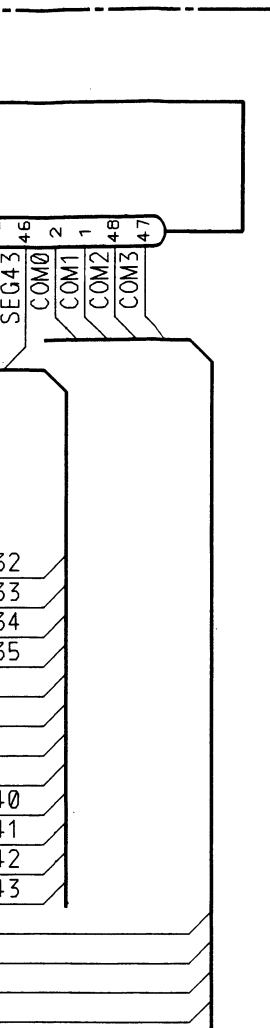


Fig. 34

16.5 KEY BOARD UNIT



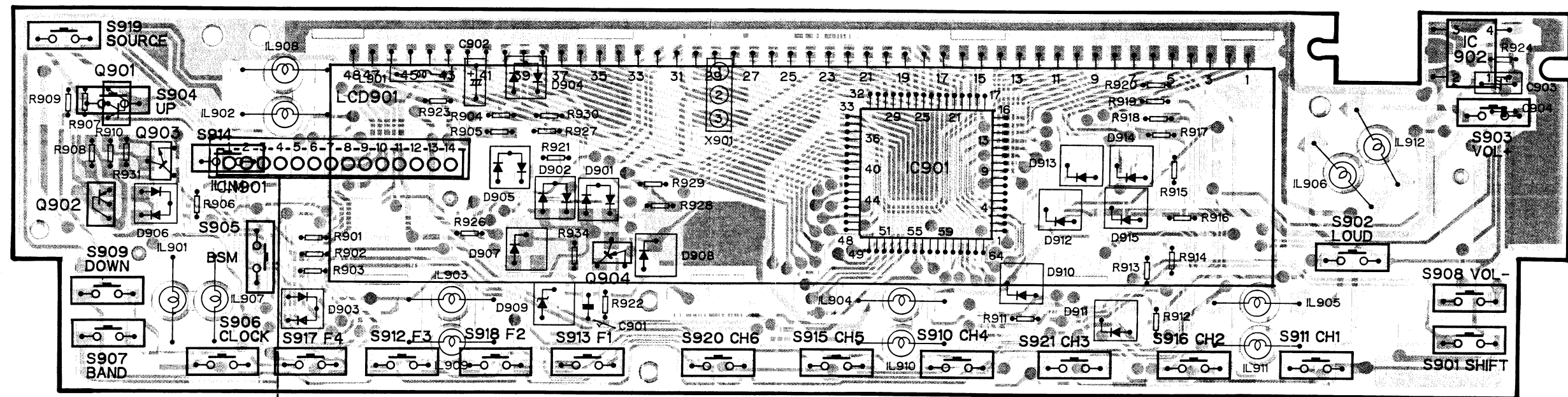


SS1083
5MHz

s for resistor
fixed values
as:

Fig. 35

Q901
IC. Q Q902 Q903 Q904 IC901 IC902



TO TUNER AMP P.C. BOARD
CN603

Fig. 36

D

17. EXPLODED VIEW

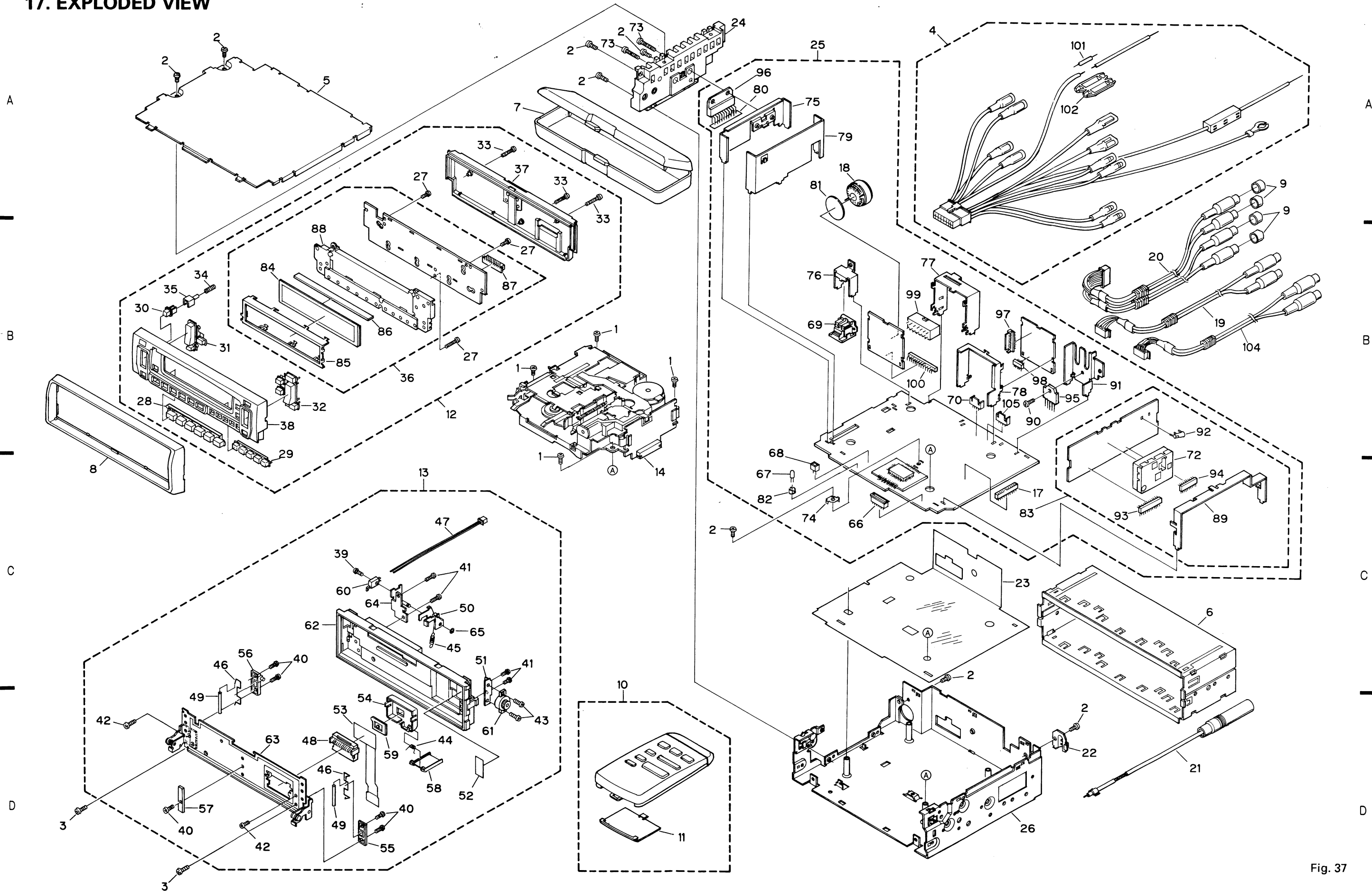


Fig. 37

●Parts List(KEH-M780/US)

Mark No.	Description	Part No.	Mark No.	Description	Part No.
A	1 Screw	BMZ26P050FMC	38 Grille Unit	CXA5138	
	2 Screw	BMZ30P050FMC	39 Screw	CBA1070	
	3 Screw	CBA1233	40 Screw	CBA1082	
	4 Cord Assy	CDE3768	41 Screw	CBA1183	
	* 5 Case	CNB1636	42 Screw	CBA1234	
	6 Holder	CNC1484	43 Screw	CBA1235	
	7 Case	CNS2055	44 Spring	CBH1217	
	8 Panel	CNS2599	45 Spring	CBH1395	
	9 Cap	CNV2680	46 Spring	CBH1528	
	10 Remote Control Assy	CXA5364	* 47 Connector	CDE3294	
B	11 Battery Cover	CNS2224	48 Socket	CKS2293	
	12 Detach Grille Assy	CXA4939	49 Roller	CLA2041	
	13 Panel Assy	CXA4950	50 Arm	CNC4379	
	● 14 Cassette Mechanism Module	EXK1930	51 Holder	CNC4381	
			52 Cushion	CNM3640	
	15		53 P.C. Board	CNP3085	
	16		54 Cover	CNS2502	
	17 Connector(CN604)	CKS1730	55 Holder	CNV2141	
	18 Coil(L801)	CTH1107	56 Holder	CNV3247	
	19 Cord	CDE3771	57 Guide	CNV3248	
C	20 Cord	CDE3774	58 Door	CNV3249	
	21 Antenna Cable	CDH1117	59 Rubber	CNV3272	
	* 22 Holder	CNC2913	60 Switch(Detach)	CSN-096	
	* 23 Insulator	CNM3441	61 Damper Unit	CXA4130	
	* 24 Heat Sink	CNR1256	62 Panel Unit	CXA4968	
	● 25 Tuner Amp Unit	CWM3190	63 Holder Unit	CXA4969	
	* 26 Chassis Unit	CXA5163	64 Bracket Unit	CXA4971	
	27 Screw	BPZ20P060FMC	65 Washer	WT22D050D050	
	28 Button	CAC3312	66 Connector(CN603)	CKS1260	
	29 Button	CAC3313	67 Lamp(IL601)	CEL1025	
D	30 Button	CAC3316	68 Plug(CN605)	CKS-783	
	31 Button	CAC3491	69 Connector(CN601)	CKS2105	
	32 Button	CAC3492	* 70 Plug(CN501)	CKS1224	
	33 Screw	CBA1190	71		
	34 Spring	CBH1476	72 FM Front End(FE1)	CWB1065	
	35 Lever	CNV3250	73 Screw	BMZ30P140FMC	
	● 36 Key Board Unit	CWM3201	* 74 Holder	CNC2218	
	* 37 Cover Unit	CXA4973	* 75 Holder	CNC4370	

Fig. 37

Mark No.	Description	Part No.	Mark No.	Description	Part No.
* 76	Holder	CNC4371	* 91	Holder	CNC4396
* 77	Holder	CNC4372	92	Antenna Jack(ANT1)	CKX1010
* 78	Holder	CNC4373	* 93	Plug(CN2)	CKS1620
* 79	Holder	CNC4374	* 94	Plug(CN1)	CKS1607
* 80	Insulator	CNM3386	95	IC(IC602)	TA8214K
* 81	Insulator	CNM3634	96	IC(IC510)	PA3027A
82	Holder	CNV1906	* 97	Plug(CN703)	CKS1228
● 83	FM/AM Unit	CWE1280	* 98	Plug(CN701)	CKS1615
84	LCD	CAW1192	99	Plug(CN609)	CKS1625
* 85	Holder	CNC4382	100	Plug(CN607)	CKM1057
86	Spacer	CNM3626	101	Resistor	RS1/2P102JL
87	Connector	CNV3252	102	Cap	CNS1472
88	Lens	CNV3473	103	Fuse(7A)	CEK1023
* 89	Holder	CNC3506	104	Cord	CDE3772
90	Screw	BMZ30P060FMC	* 105	Plug(CN702)	CKS1733

● The KEH-M8550/ES and KEH-M8500/US Parts Lists enumerate the parts which differ from those enumerated in the KEH-M780/US Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The KEH-M780/US Parts List is given on page 65.

Mark No.	Description	KEH-M780/US	KEH-M8550/ES	KEH-M8500/US
		Part No.	Part No.	Part No.
9	Cap	CNV2680	CNV2680	.....
10	Remote Control Assy	CXA5364	CXA4026	CXA5371
12	Detach Grille Assy	CXA4939	CXA4941	CXA4940
13	Panel Assy	CXA4950	CXA4952	CXA4951
18	Coil(L801)	CTH1107	CTH1103	CTH1107
19	Cord	CDE3771	CDE3771	CDE3846
20	Cord	CDE3774	CDE3774	.....
● 25	Tuner Amp Unit	CWM3190	CWM3192	CWM3191
* 26	Chassis Unit	CXA5163	CXA5163	CXA5164
31	Button	CAC3491	CAC3383	CAC3491
32	Button	CAC3492	CAC3384	CAC3492
● 36	Key Board Unit	CWM3201	CWM3203	CWM3202
38	Grille Unit	CXA5138	CXA5140	CXA5139
* 78	Holder	CNC4373	CNC4373	.....
* 97	Plug(CN703)	CKS1228	CKS1228	.....
* 98	Plug(CN701)	CKS1615	CKS1615	.....
104	Cord	CDE3772	CDE3772	CDE3770

●1L Mechanism



NOTES:

- *Parts marked b*
- *Parts marked b they may be un*

● Parts List

Mark	No.	Des
	1	Scr
	2	Scr
	3	Scr
	4	Wa
	5	Wa
	6	Wa
⊙	7	Sw
	8	Dec
	9	Spr
	10	Spr
	11	Spr
	12	Spr
	13	Spr
	14	Spr
	15	Spr
	16	Spr
	17	Spr
	18	Spr
	19	Spr
	20	Spr
	21	Spr
	22	Co
	23	Pr
	24	Ro
	25	St
	26	Ro
	27	Co
	28	Co
	29	Co
	30	Ar
	31	A
	32	Lev
	33	Hol
	34	Co
	35	Lev
	36	Lev
	37	Br
	38	Arr
	39	P.C
	40	P.C
	41	P.C
	42	Ro
	43	Bel
	44	Ge
	45	Ge

Fig. 38

NOTES:

- Parts marked by " * " are generally unavailable because they are not in our Master Spare Parts List.
- Parts marked by " © " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

● Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Screw	BMZ20P060FMC	46	Gear	ENV1348	
	2	Screw	BSZ20P040FMC	47	Collar	ENV1349	
	3	Screw	CBA1015	48	Gear	ENV1350	
	4	Washer	CBF1037	49	Gear	ENV1351	
	5	Washer	CBF1038	50	Gear	ENV1354	
	6	Washer	CBG1003	51	Gear	ENV1355	
	7	Switch	CSN1022	52	Gear	ENV1357	
◎	8	Deck Unit	CWM3114	53	Gear	ENV1358	
	9	Spring	EBH1458	54	Gear	ENV1359	
	10	Spring	EBH1434	55	Clamper	ENV1360	
	11	Spring	EBH1435	56	Clamper	ENV1361	
	12	Spring	EBH1437	57	Arm	ENV1362	
	13	Spring	EBH1438	58	Gear	ENV1363	
	14	Spring	EBH1439	59	Flywheel	ENV1368	
	15	Spring	EBH1440	60	Head Assy	EXA1163	
	16	Spring	EBH1441	61	Arm Unit	EXA1276	
	17	Spring	EBH1442	62	Arm Unit	EXA1277	
	18	Spring	EBH1443	63	Motor Unit	EXA1278	
	19	Spring	EBH1446	64	Motor Unit	EXA1279	
	20	Spring	EBH1452	65	Head Base Unit	EXA1305	
	21	Spring	EBL1016	66	Gear Unit	EXA1281	
	22	Connector(CN252)	CKS2127	67	Guide Unit	EXA1282	
	23	Photo-Interrupter	EGN1002	68	Chassis Unit	EXA1283	
	24	Roller	ELA1281	69	Pinch Roller Unit	EXA1284	
	25	Shaft	ELA1282	70	Pinch Roller Unit	EXA1285	
	26	Roller	ELA1283	71	Reel Unit	EXA1286	
	27	Cover	ENC1307	72	Arm Unit	EXA1287	
	28	Connector(CN251)	CKS1711	73	Sub Chassis Unit	EXA1288	
	29	Connector(CN253)	CKS2129	74	Arm Unit	EXA1289	
	30	Arm	ENC1310	75	Spare Unit	EXA1293	
	31	Arm	ENC1311	76	Screw	HBA-147	
	32	Lever	ENC1312	77	Washer	HBF-179	
	33	Holder	ENC1313	78	Screw	JGZ20P025FNI	
	34	Cover	ENC1314	79	Screw	PMS20P025FMC	
	35	Lever	ENC1315	80	.....	
	36	Lever	ENC1316	81	.....	
	37	Bracket	ENC1317	82	Washer	YE15FUC	
	38	Arm	ENC1335	83	Washer	YE20FUC	
	39	P.C.Board	ENP1109	84	Washer	YE25FUC	
	40	P.C.Board	ENP1106	85	Frame Unit	EXA1290	
	41	P.C.Board	ENP1107	86	Lever	ENC1308	
	42	Roller	ENR1023	87	Lever	ENC1309	
	43	Belt	ENT1014	88	.....	
	44	Gear	ENV1346	89	Spring	EBL1015	
	45	Gear	ENV1347	90	Screw	JFZ17P025FNI	

19. PACKING METHOD

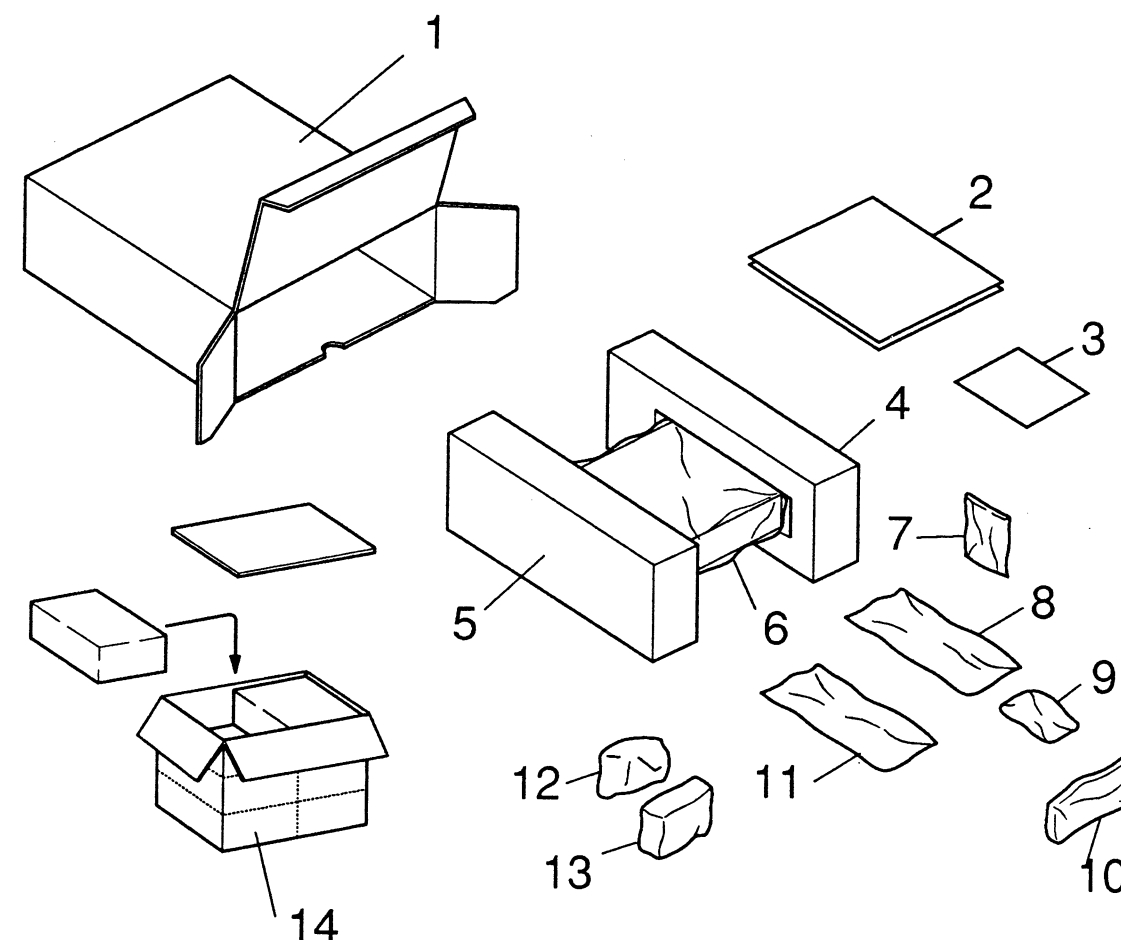


Fig. 39

● Parts List

*:Non spare part

Mark No. Description	KEH-M780/US	KEH-M8550/ES	KEH-M8500/US
	Part No.	Part No.	Part No.
1 Carton	CHG2266	CHG2268	CHG2267
2-1 Owner's Manual	CRB1258	CRD1607	CRB1259
* 2-2 Card	.....	.....	ARY1048
* 3 Warranty Card	CRY1053	.....	.....
4 Protector	CHP1506	CHP1506	CHP1506
5 Protector	CHP1505	CHP1505	CHP1505
6 Cover	CEG1092	CEG1092	CEG1092
7 Accessory Assy	CEA1473	CEA1473	CEA1473
8 Cord Assy	CDE3768	CDE3768	CDE3768
9 Screw Assy	CEA1761	CEA1761	CEA1761
10 Case	CNS2055	CNS2055	CNS2055
11 Accessory Assy	CEA1800	CEA1800	CEA1800
12 Accessory Assy	CEA1784	CEA1784	CEA1784
13 Remote Control Assy	CXA5364	CXA4026	CXA5371
14 Contain Box	CHL2266	.....	CHL2267

7 Accessory Assy CEA1473	
Mark No. Description	Part No.
* 7-1 Battery	CEX1006
7-2 Fastener(Rough)	CNM3639
7-3 Fastener(Soft)	CNM3630
* 7-4 Polyethylene Bag	CEG-127

9 Screw Assy CEA1761	
Mark No. Description	Part No.
9-1 Screw(×4)	BMZ50P080FMC
9-2 Screw	CBA-102
9-3 Screw	CBA1002
9-4 Screw(×4)	CMZ50P080FMC
9-5 Nut(×2)	NF50FMC
9-6 Polyethylene Bag	CEG-127

11 Accessory Assy CEA1800	
Mark No. Description	Part No.
11-1 Strap	CNF-111
11-2 Bush	CNV1009
* 11-3 Polyethylene Bag	CEG-158

12 Accessory Assy CEA1784	
Mark No. Description	Part No.
12-1 Spring	CBH-865
12-2 Handle(×2)	CNC4800
* 12-3 Polyethylene Bag	E36-613

2-1 Owner's Manual		
Part No.	Model	Language
CRB1258	KEH-M780/US	English
CRD1607	KEH-M8550/ES	English, French, Spanish, Arabic
CRB1259	KEH-M8500/US	English

20. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/□S□□□J, RS1/□□S□□□J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

-----Circuit	Symbol & No. Part	Name-----	Part No.
Unit Number :			
Unit Name :	FM/AM Unit		
MISCELLANEOUS			
IC 51		PA4019A	
IC 201		PAF001A	
Q 1 5		DTC124EU	
Q 2 10 131 132 203		DTC124EU	
Q 3 71 123		2SC4116	
Q 52		2SC4213	
Q 126		2SC4116	
Q 201		FC12(12G)	
Q 202		2SC4116	
Q 231		DTC124EU	
D 201 204		MA157-MR	
D 205		SVC203CP	
L 1	Inductor	LCTA150K3225	
L 51	Inductor	LCTA150K3225	
L 52	Inductor	LCTA220K3225	
L 71	Inductor	LCTB3R9K2125	
L 101	Inductor	LCTA102K4532	
L 201	Coil	CTB1086	
L 202	Coil	CTB1082	
L 203	Inductor	LCTB390K2125	
L 204	Inductor	LCTB680K2125	
L 205	Inductor	CTF1198	
L 206	Inductor	CTF1197	
T 51	Coil	CTE1067	
T 52	Coil	CTE1068	
T 71	Coil	CTE1058	
T 203	Coil	CTB1087	
T 204	Coil	CTE1064	
T 205	Coil	CTE1060	
T 206	Coil	CTE1061	
TH 51 102	Thermister	DTN-T204D154K	
CF 52 53	Ceramic Filter	CTF1247	
CF 201	Crystal Filter	CTF1262	
CF 202	Ceramic Filter	CTF1191	
X 151	Ceramic Resonator	CSS1075	
X 201	Crystal Resonator	CSS1094	
VR 1	Semi-fixed 22kΩ(B)	CCP1183	
VR 51 101 102	Semi-fixed 33kΩ(B)	CCP1184	
AR 1	Surge Protector	DSP-141N	
FE 1	FM Front End	CWB1065	

-----Circuit	Symbol & No. Part	Name-----	Part No.
RESISTORS			
R 1			RS1/16S562J
R 2 66 73			RS1/16S103J
R 4			RS1/16S102J
R 5			RS1/16S472J
R 6			RS1/16S392J
R 7 8 9			RS1/16S0R0J
R 10			RS1/16S472J
R 11			RS1/10S0R0J
R 54			RS1/10S562J
R 56			RS1/16S333J
R 57			RS1/16S153J
R 58			RS1/16S273J
R 59 74			RS1/16S331J
R 72			RS1/16S123J
R 75			RS1/16S102J
R 76			RS1/16S221J
R 101			RS1/10S391J
R 102 111			RS1/16S183J
R 104 106			RS1/16S683J
R 105			RS1/16S392J
R 108			RS1/16S333J
R 121 149			RS1/16S104J
R 122			RS1/16S124J
R 123			RS1/16S273J
R 124 132			RS1/16S0R0J
R 127 153			RS1/16S222J
R 128			RS1/16S103J
R 129			RS1/16S184J
R 137			RS1/16S223J
R 142			RS1/16S473J
R 143			RS1/16S393J
R 145			RS1/16S0R0J
R 148			RS1/10S222J
R 151 152			RS1/16S222J
R 201			RS1/16S220J
R 202			RS1/10S681J
R 203			RS1/16S222J
R 204			RS1/16S473J
R 205 209			RS1/16S470J
R 207			RS1/10S822J
R 211 212 236 237 238			RS1/16S103J
R 214			RS1/16S182J
R 231			RS1/16S823J
R 232			RS1/10S102J
R 233			RS1/16S222J
R 235			RS1/16S104J
R 239			RS1/16S392J
R 240			RS1/16S473J
R 241 242			RS1/16S103J
R 243			RS1/16S152J
R 244			RS1/16S242J
R 249			RS1/16S225J

-----Circuit	Symbol & No. Part	Name-----	Part No.
CAPACITORS			
C 1	111 125		CEV100M16
C 2	51 59		CKSRYF473Z25
C 5			CKSQYB472K50
C 52	53 61		CKSRYB223K25
C 54			CCSQCH101J50
C 56			CKSRYF104Z25
C 57			CSZSR33M25
C 58			CCSRCH070D50
C 60			CEVNP100M10
C 62			CCSRPH820J50
C 63			CCSRPH470J50
C 72	73 80 104		CKSRYB103K50
C 74	129 158		CKSRYF473Z25
C 101			CKSRYB332K50
C 102			CKSRYB682K50
C 103			CKSQYB272K50
C 105	127		CEV4R7M35
C 106			CEVR47M50
C 107	108		CKSRYB222K50
C 110			CKSYB224K25
C 112			CKSYB473K50
C 122			CKSYB104K50
C 123			CKSYB103K50
C 124	132 153		CSZSR47M20
C 128			CKSRYB223K25
C 131			CCSRCH820J50
C 151	152		CKSQYB393K25
C 154	155 156		CEV3R3M50
C 157			CEV101M10
C 201	216 241		CKSRYB103K50
C 202	212		CKSRYB332K50
C 203			CSZSR33M10
C 204			CKSQYB223K25
C 205	221		CCSRCH120J50
C 206			CCSRCH560J50
C 207			CCSRCH680J50
C 208			CKSRYB223K25
C 210			CKSQYB103K50
C 211	235		CEVR47M50
C 213			CCSQCH330J50
C 215			CKSRYF473Z25
C 220			CCSRCH430J50
C 224	229		CEV470M16
C 225			CKSQYB333K25
C 226			CKSQYB473K25
C 231			CCSRCH100D50
C 232	234 244		CKSRYB103K50
C 233			CKSRYF473Z25
C 236			CKSYB104K50
C 237			CEV4R7M35
C 238			CEV3R3M50
C 239			CKSRYB223K25
C 242			CCSRCH030C50

Unit Number :
Unit Name : Deck Unit

MISCELLANEOUS

IC 251	HA12173
IC 351	PA2020A
Q 271	2SC4116
Q 351	2SB1260
Q 352	2SC4102
D 351	MA141K-MH
VR 301 302	CCP1130

Semi-fixed 33kΩ(B)

-----Circuit	Symbol & No. Part	Name-----	Part No.
RESISTORS			
R 251	252 253 254		RS1/10S104J
R 255	256		RS1/10S181J
R 257	258		RS1/10S183J
R 259	260		RS1/10S133J
R 261	262		RS1/10S274J
R 271			RS1/10S183J
R 272	273 321 322		RS1/10S223J
R 274			RS1/10S103J
R 275			RS1/10S473J
R 276	278		RS1/10S104J
R 277			RS1/10S224J
R 301	302 402		RS1/10S223J
R 303	304		RS1/10S561J
R 351	352		RS1/10S102J
R 353	354		RS1/10S102J
R 355			RS1/10S274J
R 356			RS1/10S202J
R 357			RS1/10S472J
R 358	359		RS1/10S103J
R 360			RS1/10S102J
R 361			RS1/10S622J
R 401			RS1/10S273J
R 403	405		RS1/10S274J
R 404			RS1/10S823J

CAPACITORS

C 251	252 253 254	CKSQYB471K50
C 255	256 353	CKSQYB103K50
C 257	258	CEVNP010M50
C 271		CEV010M50
C 272		CKSQYB104K25
C 301	302	CEVNP47M50
C 303	304 305 306 307 308	CKSQYB222J50
C 309	310 311 312	CKSQYB104K25
C 351		CKSYB224K25
C 352		CKSQYB392K50
C 354		CKSQYB473K50
C 355		CKSYB104K50
C 356		CKSQYB103K50
C 401		CKSQYB182K50
C 402		CKSQYB822K50
C 403		CKSQYB333K50
C 404		CKSQYB471K50

Tuner Amp Unit

Consists of
Tuner Amp P.C.Board
Power Filter P.C.Board
Isolator P.C.Board

Unit Number :
Unit Name : Tuner Amp Unit(KEH-M780/US)

MISCELLANEOUS

IC 451	LC72140M
IC 501	PMJ002A
IC 502	702 703 704 705
IC 503	NJM4558M
IC 504	NJM4558M
	TC9188F1
IC 505	506
IC 507	509
IC 508	NJM2082M
IC 510	NJM2068MD1
IC 601	TC4052BF
	PA3027A
	PML001A

====Circuit	Symbol &	No. Part	Name=====	Part No.
IC 602				TA8214K
IC 603				S-80734AN-DY
IC 604				PD4411A
IC 701				NJM4558M
Q 421 422				DTC143TK
Q 423 424 461 462 801 802				DTC143TK
Q 452 454				2SK208
Q 453 456 457 458 601				2SC2712
Q 455 602 606 610 703 704 705 706 708				2SC2712
Q 464				2SC2498
Q 501 502				DTC314TK
Q 503 612 620				DTA124EK
Q 504 615 616				DTC124EK
Q 505				2SD1684
Q 603				2SD1760F5
Q 604				2SC3295
Q 605 617				2SB1243
Q 607				DTB123EK
Q 608 609 613				DTC124EK
Q 611 614				2SA1162
Q 622				2SC3295
Q 701				DTC314TK
Q 702				DTC314TK
Q 709 710 711				2SC2712
D 451 452				MA3027H
D 453 454 455				MA151WK-MT
D 501				MA3047M
D 502 503 504 505 506 507 508 509 604				ERA15-02VH
D 511				MA3091L
D 601				MA3082L
D 603				MA3075H
D 605 609				MA151WK-MT
D 606				MA3056M
D 610				MA3082H
D 611 612 613 614 615 616 617 618 619 620				MA153-MC
D 621 622 623 624				MA153-MC
D 625 629				MA110-1A
D 627				MA8062M
D 640 641 642 643				ERA15-02VH
L 451 452 601 602 603 Ferri-Inductor				LAU2R2M
L 701 702 703 704 Ferri-Inductor				LAU2R2M
L 453 Ferri-Inductor				CTF-157
L 801 Coil				CTH1107
TC 601 Trimmer				CCG1002
X 451 Crystal Resonator				CSS1030
X 601 Crystal Resonator				CSS1023
S 601 Switch(RESET)				CSG1046
S 602 Switch(MAIN IN)				CSH1009
IL 601 Lamp 14V 40mA				CEL1025
EF 601 Filter				CCG1006
BZ 601 Buzzer				CPV1011
FM/AM Unit				
RESISTORS				
R 421 422 423 424				RS1/10S392J
R 425 426 503 504				RS1/10S272J
R 427 428 615				RS1/10S153J
R 451 452 453 459 481 482 536 603 608 627				RS1/10S473J
R 454 455 456 462				RS1/10S222J
R 457 463 474 475 649 669				RS1/10S222J
R 458 464 466 483 484 574				RS1/10S102J
R 460 602 607 620 639 647				RS1/10S473J
R 465 480 495 510 513 514 564 618 672 676				RS1/10S472J
R 467				RS1/10S152J
R 468 478 616				RS1/10S103J
R 469				RS1/10S102J
R 470 471 638 687 700				RS1/10S102J
R 472				RS1/10S102J
R 473				RS1/10S102J

====Circuit	Symbol &	No. Part	Name=====	Part No.
R 477				RS1/10S472J
R 479 515 516				RS1/10S333J
R 485 486 487 488				RS1/10S272J
R 489 490				RS1/10S104J
R 491 492				RS1/10S103J
R 493				RS1/10S563J
R 496				RS1/10S182J
R 497				RS1/10S821J
R 498				RS1/10S101J
R 499 505 506 604				RS1/10S101J
R 501 502				RS1/10S563J
R 507 508				RS1/10S151J
R 509				RS1/10S152J
R 512				RS1/10S183J
R 517				RS1/10S103J
R 525 526 527 528				RS1/10S271J
R 533 534 535 560 561 565 605				RS1/10S472J
R 537 538 539 540 541 542 721 722 723				RS1/10S104J
R 543				RS1/10S105J
R 544 545 612 613 617 671				RS1/10S103J
R 548 549				RS1/10S105J
R 550 551				RS1/10S153J
R 552 553 611 648 862				RS1/10S223J
R 554 555				RS1/10S821J
R 556 557 601 606 621				RS1/10S223J
R 566 567 568 569 570 571 572 573				RS1/10S2R2J
R 595				RS1/10S331J
R 596 619 666 690 691 858				RS1/10S102J
R 597				RS1/10S181J
R 609				RS1/10S183J
R 610 670				RS1/2S681J
R 614				RS1/10S221J
R 623 624 625 626 693				RS1/10S221J
R 628 629 630 631				RS1/10S682J
R 632 633 634 635 636 725				RS1/10S471J
R 637				RS1/10S124J
R 640 642				RS1/10S473J
R 644				RS1/10S473J
R 646				RS1/10S683J
R 650 651 652 653				RS1/10S681J
R 654 655 656 657 658 659 660 661 662 663				RS1/10S472J
R 673 674 675 680 681 682 683 684				RS1/10S472J
R 664 665 765 766 767 768				RS1/10S473J
R 667				RS1/10S472J
R 668				RS1/10S0R0J
R 677 678				RS1/10S472J
R 679				RS1/10S473J
R 685 686 694 695 696 761 762				RS1/10S472J
R 688 689 699 711 764 854				RS1/10S473J
R 701 702				RS1/10S224J
R 703 704 709				RS1/10S223J
R 705 706				RS1/10S153J
R 707 708				RS1/10S821J
R 710				RS1/10S223J
R 717				RS1/10S100J
R 724				RS1/10S104J
R 726 727 728 729 730 731 732				RS1/10S471J
R 733 734 735 736				RS1/10S154J
R 737 738 739 740				RS1/10S334J
R 749 750 751 752				RS1/10S123J
R 753 754 755 756				RS1/10S103J
R 758 770 782 786				RS1/10S123J
R 759 771 783 787				RS1/10S562J
R 760 772				RS1/10S331J
R 763				RS1/10S0R0J
R 769 773 781 784 785 788				RS1/10S331J
R 774 775 776 777 Chip Reistor 100Ω				CCN1072
R 779				RS1/10S102J
R 801 802				RS1/10S393J
R 803 804				RS1/10S392J

-----Circuit	Symbol & No. Part	Name-----	Part No.
R 805	806		RS1/10S273J
R 856			RS1/10S102J
R 861			RS1/10S473J
R 873			RS1/10S102J
R 880	881 882 883		RS1/10S101J
R 885			RS1/10S0R0J
R 886			RS1/10S472J

CAPACITORS

C 421	422		CEAS4R7M35
C 451	452		CCSQCH270J50
C 453	471 537 538 566 567 614 633 636 640		CCSQCH101J50
C 454	592 603		CEA4R7M16LS2
C 455	458 461 506 643 717 718 719 720		CKSQYB103K25
C 457		4.7 μ F/16V	CCH1005
C 459		Chip Capacitor 0.047 μ F	CCG1008
C 460			CFTNA474J50
C 462			CCSQSL561J50
C 463	464 559 855		CKSQYB223K25
C 465			CCSQCH101J50
C 467	468		CEAS2R2M50
C 469	520 601 613		CKSQYB103K25
C 470	632		CCSQCH101J50
C 501	502		CEA4R7M16LS2
C 503	504		CCSQCH220J50
C 505	510 542 543 612		CEA2R2M50LS2
C 507	508 509 514 515 518 519 553 554 590		CEA100M16LS2
C 511			CEA470M16LS
C 516	517		CKSQYB822K50
C 521	522		CKSQYB183K25
C 523			CCSQCH221J50
C 524			CCSQSL221J50
C 525	526		CKSQYB152K50
C 527	528 602 607 609 721 722 723 724		CEA010M50LS2
C 529	530		CKSQYF224Z25
C 531	532		CKSQYB332K50
C 533	534		CEALNP2R2M35
C 535	536		CKSQYB333K25
C 539	540		CEA100M16LS2
C 541			CKSYF104Z25
C 552	561 568 569		CEA220M16LS
C 555			CKSQYB273K25
C 556	604 610		CKSQYB473K16
C 557	560		CKSQYB123K50
C 558			CKSQYB682K50
C 570	571 801 802		CKSQYB102K50
C 572	573 576 577		CEALNP4R7M16
C 574	579		CKSQYB682K50
C 575			CKSQYB682K50
C 578			CKSQYB682K50
C 580	581 582 583 584 585 586 587		CKSYB104K25
C 588			CEA100M16LS2
C 591			CEA330M10LS
C 593			CKSQYB102K50
C 594	596 631 634		CEA100M16LS2
C 597			CEA4R7M16LS2
C 598	599		CKSYB102K50
C 605			CCSQCH330J50
C 606		33 μ F/10V	CCH1128
C 608			CEA470M16LS
C 611			CEAS101M10
C 615			CASAQ4R7M10
C 616			CCSQCH330J50
C 635			CEAS102M16
C 641			CCSQCH101J50
C 642			CEHAQ102M16
C 644			CKSQYB473K25
C 650		3300 μ F/16V	CCH1130
C 651			CKSQYB102K50

-----Circuit	Symbol & No. Part	Name-----	Part No.
C 701	702		CCSQCH101J50
C 703	704		CEA220M16LS
C 705			CKSQYB102K50
C 706			CKSQYB102K50
C 729			CEV010M50
C 730	731 732		CEA010M50LS2
C 739			CEA330M10LS
C 741	742 743 744		CEA100M16LS2

Unit Number :
Unit Name : Key Board Unit

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CAPACITORS

C 901 904	CKSQYB103K25
C 902 903	CSZSR100M6R3

Unit Number :
Unit Name : Mechanism P.C.Board

S 1 2	Switch(70 μ , Load)	CSN1022
EGN 1 2	Photo Reflector	EGN1001
R 1		RD1/4HM271J
R 2		RD1/4HM681J

Miscellaneous Parts List

S 600	Switch(Detach)	CSN-096
HD 1	Head Assy	EXA1163
M 1	Motor Unit(Main)	EXA1278
M 2	Motor Unit(Sub)	EXA1279

- The KEH-M8550/ES and KEH-M8500/US Parts Lists enumerate the parts which differ from those enumerated in the KEH-M780/US Parts List only.
The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly.
The KEH-M780/US Parts List is given on page 73.

MISCELLANEOUS

Circuit Symbol & No.	KEH-M780/US	KEH-M8550/ES	KEH-M8500/US
	Part No.	Part No.	Part No.
IC507	NJM2068MD1	NJM2068MD1	.....
IC508	TC4052BF	TC4052BF	.....
IC509	NJM2068MD1	NJM2068MD1	NJM4558M
Q505	2SD1684	2SD1684	2SD1859
S602	CSH1009	CSH1009	.....
L801	CTH1107	CTH1103	CTH1103
IC702, 703, 704, 705	NJM4558M	NJM4558M	.....
Q703, 704, 705, 706	2SC2712	2SC2712	.....
Q708, 709, 710, 711	2SC2712	2SC2712	.....
L701, 702, 703, 704	LAU2R2M	LAU2R2M	.....

RESISTORS

Circuit Symbol & No.	KEH-M780/US	KEH-M8550/ES	KEH-M8500/US
	Part No.	Part No.	Part No.
R515, 516	RS1/10S333J	RS1/10S333J	.....
R529, 530, 531, 532	.....	.....	RS1/10SOR0J
R536	RS1/10S473J	RS1/10S473J	.....
R537-542	RS1/10S104J	RS1/10S104J	.....
R543	RS1/10S105J	RS1/10S105J	.....
R544, 545	RS1/10S103J	RS1/10S103J	.....
R546	.....	.....	RS1/10SOR0J
R547	.....	.....	RS1/10SOR0J
R548, 549	RS1/10S105J	RS1/10S105J	RS1/10S104J
R640	RS1/10S473J	RS1/10S473J	.....
R641	.....	RS1/10S473J	RS1/10S473J
R643	.....	.....	RS1/10S473J
R644	RS1/10S473J	.....	.....
R717	RS1/10S100J	RS1/10S100J	.....
R721, 722, 723, 724	RS1/10S104J	RS1/10S104J	.....
R725-732	RS1/10S471J	RS1/10S471J	.....
R733, 734, 735, 736	RS1/10S154J	RS1/10S154J	.....
R737, 738, 739, 740	RS1/10S334J	RS1/10S334J	.....
R749, 750, 751, 752	RS1/10S123J	RS1/10S123J	.....
R753, 754, 755, 756	RS1/10S103J	RS1/10S103J	.....
R758, 770, 782, 786	RS1/10S123J	RS1/10S123J	.....
R759, 771, 783, 787	RS1/10S562J	RS1/10S562J	.....
R760, 772	RS1/10S331J	RS1/10S331J	.....
R769, 773	RS1/10S331J	RS1/10S331J	.....
R774, 775, 776, 777	CCN1072	CCN1072	.....
R781, 784, 785, 788	RS1/10S331J	RS1/10S331J	.....

====Circuit	Symbol & No. Part	Name=====	Part No.
R 805	806		RS1/10S273J
R 856			RS1/10S102J
R 861			RS1/10S473J
R 873			RS1/10S102J
R 880	881 882 883		RS1/10S101J
R 885			RS1/10S0R0J
R 886			RS1/10S472J
CAPACITORS			
C 421	422		CEAS4R7M35
C 451	452		CCSQCH270J50
C 453	471 537 538 566 567 614 633 636 640		CCSQCH101J50
C 454	592 603		CEA4R7M16LS2
C 455	458 461 506 643 717 718 719 720		CKSQYB103K25
C 457		4.7 μ F/16V	CCH1005
C 459		Chip Capacitor 0.047 μ F	CCG1008
C 460			CFTNA474J50
C 462			CCSQSL561J50
C 463	464 559 855		CKSQYB223K25
C 465			CCSQCH101J50
C 467	468		CEAS2R2M50
C 469	520 601 613		CKSQYB103K25
C 470	632		CCSQCH101J50
C 501	502		CEA4R7M16LS2
C 503	504		CCSQCH220J50
C 505	510 542 543 612		CEA2R2M50LS2
C 507	508 509 514 515 518 519 553 554 590		CEA100M16LS2
C 511			CEA470M16LS
C 516	517		CKSQYB822K50
C 521	522		CKSQYB183K25
C 523			CCSQCH221J50
C 524			CCSQSL221J50
C 525	526		CKSQYB152K50
C 527	528 602 607 609 721 722 723 724		CEA010M50LS2
C 529	530		CKSQYF224Z25
C 531	532		CKSQYB332K50
C 533	534		CEALNP2R2M35
C 535	536		CKSQYB333K25
C 539	540		CEA100M16LS2
C 541			CKSYF104Z25
C 552	561 568 569		CEA220M16LS
C 555			CKSQYB273K25
C 556	604 610		CKSQYB473K16
C 557	560		CKSQYB123K50
C 558			CKSQYB682K50
C 570	571 801 802		CKSQYB102K50
C 572	573 576 577		CEALNP4R7M16
C 574	579		CKSQYB682K50
C 575			CKSQYB682K50
C 578			CKSQYB682K50
C 580	581 582 583 584 585 586 587		CKSYB104K25
C 588			CEA100M16LS2
C 591			CEA330M10LS
C 593			CKSQYB102K50
C 594	596 631 634		CEA100M16LS2
C 597			CEA4R7M16LS2
C 598	599		CKSYB102K50
C 605			CCSQCH330J50
C 606		33 μ F/10V	CCH1128
C 608			CEA470M16LS
C 611			CEAS101M10
C 615			CASQA4R7M10
C 616			CCSQCH330J50
C 635			CEAS102M16
C 641			CCSQCH101J50
C 642			CEHAQ102M16
C 644			CKSQYB473K25
C 650		3300 μ F/16V	CCH1130
C 651			CKSQYB102K50

====Circuit	Symbol & No. Part	Name=====	Part No.
C 701	702		CCSQCH101J50
C 703	704		CEA220M16LS
C 705			CKSQYB102K50
C 706			CKSQYB102K50
C 729			CEV010M50
C 730	731 732		CEA010M50LS2
C 739			CEA330M10LS
C 741	742 743 744		CEA100M16LS2

Unit Number :
Unit Name : Key Board Unit

MISCELLANEOUS

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CAPACITORS

C 901	904	CKSQYB103K25
C 902	903	CSZSR100M6R3

Unit Number :
Unit Name : Mechanism P.C.Board

S 1	2	Switch(70 μ , Load)	CSN1022
EGN 1	2	Photo Reflector	EGN1001
R 1			RD1/4HM271J
R 2			RD1/4HM681J

Miscellaneous Parts List

S 600		Switch(Detach)	CSN-096
HD 1		Head Assy	EXA1163
M 1		Motor Unit(Main)	EXA1278
M 2		Motor Unit(Sub)	EXA1279

- The KEH-M8550/ES and KEH-M8500/US Parts Lists enumerate the parts which differ from those enumerated in the KEH-M780/US Parts List only.

The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly.

The KEH-M780/US Parts List is given on page 73.

MISCELLANEOUS

Circuit Symbol & No.	KEH-M780/US	KEH-M8550/ES	KEH-M8500/US
	Part No.	Part No.	Part No.
IC507	NJM2068MD1	NJM2068MD1	.....
IC508	TC4052BF	TC4052BF	.....
IC509	NJM2068MD1	NJM2068MD1	NJM4558M
Q505	2SD1684	2SD1684	2SD1859
S602	CSH1009	CSH1009	.....
L801	CTH1107	CTH1103	CTH1103
IC702, 703, 704, 705	NJM4558M	NJM4558M	.....
Q703, 704, 705, 706	2SC2712	2SC2712	.....
Q708, 709, 710, 711	2SC2712	2SC2712	.....
L701, 702, 703, 704	LAU2R2M	LAU2R2M	.....

RESISTORS

Circuit Symbol & No.	KEH-M780/US	KEH-M8550/ES	KEH-M8500/US
	Part No.	Part No.	Part No.
R515, 516	RS1/10S333J	RS1/10S333J	.....
R529, 530, 531, 532	.....	.....	RS1/10SOR0J
R536	RS1/10S473J	RS1/10S473J	.....
R537-542	RS1/10S104J	RS1/10S104J	.....
R543	RS1/10S105J	RS1/10S105J	.....
R544, 545	RS1/10S103J	RS1/10S103J	.....
R546	.....	.....	RS1/10SOR0J
R547	.....	.....	RS1/10SOR0J
R548, 549	RS1/10S105J	RS1/10S105J	RS1/10S104J
R640	RS1/10S473J	RS1/10S473J	.....
R641	.....	RS1/10S473J	RS1/10S473J
R643	.....	.....	RS1/10S473J
R644	RS1/10S473J	.....	.....
R717	RS1/10S100J	RS1/10S100J	.....
R721, 722, 723, 724	RS1/10S104J	RS1/10S104J	.....
R725-732	RS1/10S471J	RS1/10S471J	.....
R733, 734, 735, 736	RS1/10S154J	RS1/10S154J	.....
R737, 738, 739, 740	RS1/10S334J	RS1/10S334J	.....
R749, 750, 751, 752	RS1/10S123J	RS1/10S123J	.....
R753, 754, 755, 756	RS1/10S103J	RS1/10S103J	.....
R758, 770, 782, 786	RS1/10S123J	RS1/10S123J	.....
R759, 771, 783, 787	RS1/10S562J	RS1/10S562J	.....
R760, 772	RS1/10S331J	RS1/10S331J	.....
R769, 773	RS1/10S331J	RS1/10S331J	.....
R774, 775, 776, 777	CCN1072	CCN1072	.....
R781, 784, 785, 788	RS1/10S331J	RS1/10S331J	.....

-----Circuit	Symbol & No. Part	Name-----	Part No.
R 805	806		RS1/10S273J
R 856			RS1/10S102J
R 861			RS1/10S473J
R 873			RS1/10S102J
R 880	881 882 883		RS1/10S101J
R 885			RS1/10S0R0J
R 886			RS1/10S472J
CAPACITORS			
C 421	422		CEAS4R7M35
C 451	452		CCSQCH270J50
C 453	471 537 538 566 567 614 633 636 640		CCSQCH101J50
C 454	592 603		CEA4R7M16LS2
C 455	458 461 506 643 717 718 719 720		CKSQYB103K25
C 457		4.7 μ F/16V	CCH1005
C 459		Chip Capacitor 0.047 μ F	CCG1008
C 460			CFTNA474J50
C 462			CCSQSL561J50
C 463	464 559 855		CKSQYB223K25
C 465			CCSQCH101J50
C 467	468		CEAS2R2M50
C 469	520 601 613		CKSQYB103K25
C 470	632		CCSQCH101J50
C 501	502		CEA4R7M16LS2
C 503	504		CCSQCH220J50
C 505	510 542 543 612		CEA2R2M50LS2
C 507	508 509 514 515 518 519 553 554 590		CEA100M16LS2
C 511			CEA470M16LS
C 516	517		CKSQYB822K50
C 521	522		CKSQYB183K25
C 523			CCSQCH221J50
C 524			CCSQSL221J50
C 525	526		CKSQYB152K50
C 527	528 602 607 609 721 722 723 724		CEA010M50LS2
C 529	530		CKSQYF224Z25
C 531	532		CKSQYB332K50
C 533	534		CEALNP2R2M35
C 535	536		CKSQYB333K25
C 539	540		CEA100M16LS2
C 541			CKSYF104Z25
C 552	561 568 569		CEA220M16LS
C 555			CKSQYB273K25
C 556	604 610		CKSQYB473K16
C 557	560		CKSQYB123K50
C 558			CKSQYB682K50
C 570	571 801 802		CKSQYB102K50
C 572	573 576 577		CEALNP4R7M16
C 574	579		CKSQYB682K50
C 575			CKSQYB682K50
C 578			CKSQYB682K50
C 580	581 582 583 584 585 586 587		CKSYB104K25
C 588			CEA100M16LS2
C 591			CEA330M10LS
C 593			CKSQYB102K50
C 594	596 631 634		CEA100M16LS2
C 597			CEA4R7M16LS2
C 598	599		CKSYB102K50
C 605			CCSQCH330J50
C 606		33 μ F/10V	CCH1128
C 608			CEA470M16LS
C 611			CEAS101M10
C 615			CASAQ4R7M10
C 616			CCSQCH330J50
C 635			CEAS102M16
C 641			CCSQCH101J50
C 642			CEHAQ102M16
C 644			CKSQYB473K25
C 650		3300 μ F/16V	CCH1130
C 651			CKSQYB102K50

-----Circuit	Symbol & No. Part	Name-----	Part No.
C 701	702		CCSQCH101J50
C 703	704		CEA220M16LS
C 705			CKSQYB102K50
C 706			CKSQYB102K50
C 729			CEV010M50
C 730	731 732		CEA010M50LS2
C 739			CEA330M10LS
C 741	742 743 744		CEA100M16LS2

Unit Number :
Unit Name : Key Board Unit

MISCELLANEOUS

IC 901		PDR001A
IC 902		RS-20
Q 901	902	2SB1132
Q 903		2SC2712
Q 904		DTA114TK
D 901	902 903 904 905 906	MA153-MC
D 907	908 910 911 912 913 914 915	MA151K-MH
D 909		MA3068H
L 901		Inductor
L 901		LCTA100K4532
X 901		Ceramic Resonator
X 901		CSS1083
S 901	902 903 904	Switch
S 905	906 907 908	Switch
S 909	910 911 912	Switch
S 913	914 915 916	Switch
S 917	918 919 920	Switch
S 921		Switch
IL 901	902 903 904	Lamp 115mA 5V
IL 905	906	Lamp 115mA 5V
IL 907	908 909 910	Lamp 95mA 5V
IL 911	912	Lamp 95mA 5V
LCD901		LCD
LCD901		CAW1192

RESISTORS

R 901	902 903 904 905 906 907 908 909 910	RS1/10S222J
R 911	912 913 914 915 916 917 918 919 920	RS1/10S471J
R 921		RS1/10S474J
R 922		RS1/10S473J
R 923		RS1/10S472J
R 924		RS1/10S470J
R 926	927 928 929 930	RS1/10S471J
R 931		RS1/10S222J
R 934		RS1/10S222J

CAPACITORS

C 901	904	CKSQYB103K25
C 902	903	CSZSR100M6R3

Unit Number :
Unit Name : Mechanism P.C.Board

S 1	2	Switch(70 μ .Load)	CSN1022
EGN 1	2	Photo Reflector	EGN1001
R 1			RD1/4HM271J
R 2			RD1/4HM681J

Miscellaneous Parts List

S 600		Switch(Detach)	CSN-096
HD 1		Head Assy	EXA1163
M 1		Motor Unit(Main)	EXA1278
M 2		Motor Unit(Sub)	EXA1279

- The KEH-M8550/ES and KEH-M8500/US Parts Lists enumerate the parts which differ from those enumerated in the KEH-M780/US Parts List only.
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The KEH-M780/US Parts List is given on page 73.

MISCELLANEOUS

Circuit Symbol & No.	KEH-M780/US	KEH-M8550/ES	KEH-M8500/US
	Part No.	Part No.	Part No.
IC507	NJM2068MD1	NJM2068MD1	.....
IC508	TC4052BF	TC4052BF	.....
IC509	NJM2068MD1	NJM2068MD1	NJM4558M
Q505	2SD1684	2SD1684	2SD1859
S602	CSH1009	CSH1009	.....
L801	CTH1107	CTH1103	CTH1103
IC702, 703, 704, 705	NJM4558M	NJM4558M	.....
Q703, 704, 705, 706	2SC2712	2SC2712	.....
Q708, 709, 710, 711	2SC2712	2SC2712	.....
L701, 702, 703, 704	LAU2R2M	LAU2R2M	.....

RESISTORS

Circuit Symbol & No.	KEH-M780/US	KEH-M8550/ES	KEH-M8500/US
	Part No.	Part No.	Part No.
R515, 516	RS1/10S333J	RS1/10S333J	.....
R529, 530, 531, 532	.....	.....	RS1/10S0R0J
R536	RS1/10S473J	RS1/10S473J	.....
R537-542	RS1/10S104J	RS1/10S104J	.....
R543	RS1/10S105J	RS1/10S105J	.....
R544, 545	RS1/10S103J	RS1/10S103J	.....
R546	.....	.....	RS1/10S0R0J
R547	.....	.....	RS1/10S0R0J
R548, 549	RS1/10S105J	RS1/10S105J	RS1/10S104J
R640	RS1/10S473J	RS1/10S473J	.....
R641	.....	RS1/10S473J	RS1/10S473J
R643	.....	.....	RS1/10S473J
R644	RS1/10S473J	.....	.....
R717	RS1/10S100J	RS1/10S100J	.....
R721, 722, 723, 724	RS1/10S104J	RS1/10S104J	.....
R725-732	RS1/10S471J	RS1/10S471J	.....
R733, 734, 735, 736	RS1/10S154J	RS1/10S154J	.....
R737, 738, 739, 740	RS1/10S334J	RS1/10S334J	.....
R749, 750, 751, 752	RS1/10S123J	RS1/10S123J	.....
R753, 754, 755, 756	RS1/10S103J	RS1/10S103J	.....
R758, 770, 782, 786	RS1/10S123J	RS1/10S123J	.....
R759, 771, 783, 787	RS1/10S562J	RS1/10S562J	.....
R760, 772	RS1/10S331J	RS1/10S331J	.....
R769, 773	RS1/10S331J	RS1/10S331J	.....
R774, 775, 776, 777	CCN1072	CCN1072	.....
R781, 784, 785, 788	RS1/10S331J	RS1/10S331J	.....

CAPACITORS

Circuit Symbol & No.	KEH-M780/US	KEH-M8550/ES	KEH-M8500/US
	Part No.	Part No.	Part No.
C553, 554	CEA100M16LS2	CEA100M16LS2	CEA2R2M50LS2
C555	CKSQYB273K25	CKSQYB273K25	.....
C556	CKSQYB473K16	CKSQYB473K16	.....
C557, 560	CKSQYB123K50	CKSQYB123K50	.....
C558	CKSQYB682K50	CKSQYB682K50	.....
C559	CKSQYB223K25	CKSQYB223K25	.....
C593	CKSQYB102K50	CKSQYB102K50	.....
C717, 718, 719, 720	CKSQYB103K25	CKSQYB103K25	.....
C721, 722, 723, 724	CEA010M50LS2	CEA010M50LS2	.....
C729	CEV010M50	CEV010M50	.....
C730, 731, 732	CEA010M50LS2	CEA010M50LS2	.....
C739	CEA330M10LS	CEA330M10LS	.....
C741, 742, 743, 744	CEA100M16LS2	CEA100M16LS2	.....